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ABSTRACT

The appendixes to the final evaluation report of Research for Better Schools' employer-based career education program contain: a listing of FY 1974 evaluation reports, an explanation of evaluation instruments and test procedures, the evaluation instruments (student demographic data questionnaire, student opinion survey, parent opinion survey, experience resource site demographic data questionnaire, cluster test of knowledge, assessment of student attitudes scale, career exploration student questionnaire, and employer questionnaire), and the procedural audit report. (JR)

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RESEARCH FOR BETTER SCHOOLS, INC.

CAREER EDUCATION PROGRAM

FY 1974

FINAL EVALUATION REPORT

Appendix

September 30, 1974

Volume II

RESEARCH FOR BETTER SCHOOLS, INC.
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APPENDIX A

Listing of Evaluation Reports

FY 1974 Evaluation Reports

Formative Reports

1. 15A1 Instructional Systems Design
2. 10C1 Employer Support Evaluation
3. 12dC1 Guidance Evaluation I
4. 14C1 Basic Skills Evaluation
5. 15B1 Instructional Systems Field Test
6. 11C1 Employer Utilization Evaluation
7. 12fC2 Guidance Evaluation II
8. 13C1 Career Development Evaluation
9. 15C1 Instructional Systems Evaluation

Summative Reports

10. Report on Management Systems Components
11. Report on Support Systems Components
12. Interim Evaluation Report
13. Book of Measures
14. Final Evaluation Report

Special Evaluation Reports

15. Report on Recruitment and Selection
16. Report on Student Characteristics
17. Report on Instructional Units for Fifth Quarter
18. Report to Employer-Coordinator on Results of Sixth Quarter Interviews

APPENDIX B

Instruments and Test Procedures

INSTRUMENTS AND PROCEDURES

Each of the student groups described in Student Population was administered a series of instruments in a pretest-posttest design covering the 1973-1974 academic year. In addition, the experimental groups have been administered various tests and surveys during the course of the year.

Pretest-Posttest Instruments

The following instruments were included in the pretest-posttest design. They were administered to both experimental and control groups. Their primary use was intended to be in summative evaluation, although they have some formative utility.

1. Comprehensive Tests of Basic Skills (CTBS) - This instrument measures traditional academic skills. The Reading and Arithmetic subtests were used, yielding the following scores: Reading Vocabulary, Reading Comprehension, Reading Total, Arithmetic Computation, Arithmetic Concepts, Arithmetic Applications and Arithmetic Total. The instrument has been well developed and documented, but is subject to the usual insensitivities of standardized instruments. (Instrument available commercially).

2. Career Maturity Inventory (CMI) - This instrument was designed to measure Career Attitude and a set of career competencies: Self Appraisal, Occupational Information, Goal Selection, Planning and Problem Solving. The Self-Appraisal subtest was not administered. This instrument has been well developed but not extensively researched and documented. (Instrument available commercially).

3. Assessment of Student Attitudes Questionnaire (ASA) - This instrument has been designed by RBS staff to measure attitudes toward several elements in the learning environment: Education in General, School Curriculum, School Resources and School Counseling. This instrument is still in the development stage, and extensive data are being gathered on its performance; technical reports are available. (See Appendix C).

4. Student Demographic Data Questionnaire (SDQ) - This instrument was constructed by the evaluation staffs of all Experience Based Career Education projects to provide common data on basic characteristics. This questionnaire includes: Name, Sex, Birth Date, Race, Grade Level, Post Secondary Plans, Parents Education Level, Parent Occupations, Sending School Grades and Sending School Attendance. (See Appendix C).

Other Instruments

Another series of instruments has been established for the purpose of assessing experimental students only. Although the results of these measures may have summative evaluation implication, no comparable control group data would be available to establish a comparative perspective. These instruments have all been developed by the evaluation staff. Their primary intended use was for formative evaluation; in some cases operational needs were also accomplished through the evaluation activities.

1. Employer Cluster Tests - These instruments have been designed as a series of tests of knowledge relevant to employer cluster learning activities. They were administered as pre- and post-tests for each cluster (academic quarter). These instruments are currently in the development stage. Only sample cluster instruments are available. (See Appendix C).
2. Student Opinion Survey - This instrument has been developed as a common instrument by the evaluation staffs of the four Experience Based Career Education Programs. It is designed to measure student opinions concerning major program activities and objectives. The instrument has been subjected to analysis for refinement purposes. It was administered once, at mid-year. The common instruments will be used both summatively and formatively. (See Appendix C).
3. Parent Opinion Survey - This is the parent counterpart to the Student Opinion Survey; the information above regarding administration and refinement is pertinent here also. (See Appendix C).

4. Employer Opinion Survey - Several attempts were made to design and implement an employer counterpart to the other surveys, but none was entirely successful. Data in this area have been culled from the attempted surveys, interviews and informal sources. The background information section is represented by the Experience Resource Site Demographic Data Questionnaire. (See Appendix C).

5. Career Exploration Student Questionnaire - This instrument has been designed to gather basic student reactions to employer learning activities. It is administered during the last activity session, and results are fedback to the employer staff. (See Appendix C).

6. Forms - The generic term is used to reference a fairly sophisticated set of basic data gathering procedures which have been developed and implemented by the evaluation staff. This evaluation activity has been detailed in Task Reports 15A1, 15B1, and 15C1 on Instructional Systems. These systems have been developed to maximize computer applications. The forms designed and implemented include:

   a. Student Needs and Interests Form
   b. Student Summary Sheets
   c. Learning Activities Descriptor Form
   d. Student Transcript
   e. Student Grade Report
   f. Weekly Attendance Report

   For samples of these forms, see Task Report 15B1.

Pretest-Posttest Procedures

Figure I presents the testing schedule employed during FY 1974. It includes the four summative instruments: CTBS, CMI, ASA and SDQ. The four student groups comprising the student population are also represented: ACE, ACE-Olney, Comparison and Context. For each group on each instrument the pretest point, posttest point and elapsed time are indicated. As can be seen, it was not possible to effect an ideal schedule, particularly as a result of school requirements for comparison subjects and the change in experimental group populations from year one to year two. It was attempted to equate intertest intervals on measures where this variable is most important.

Figure 1

Testing Schedule

Instrument / Group	CTBS			CMI			ASA			SDQ
	Pre	Post	T	Pre	Post	T	Pre	Post	T	Pre
1. ACE	end June	end Feb	8	end Aug	end Feb	6	beg Oct	end Feb	5	beg Oct
2. ACE - Olney	end Aug	mid Apr	8	end Aug	mid Apr	8	beg Oct	mid Apr	6	beg Oct
3. Comparison	end Oct	beg June	8	end Oct	beg June	8	end Oct	beg June	7	end Oct
4. Context	end Oct	beg June	8	end Oct	beg June	8	end Oct	beg June	7	end Oct

Notes:

1. Instruments

CTBS = Comprehensive Tests of Basic Skills
CMI = Career Maturity Inventory
ASA = Assessment of Student Attitudes Scale
SDQ = Student Demographic Data Questionnaire

2. Groups

ACE = 12th grade Academy students
ACE - Olney = 10th and 11th grade Academy students, in cooperative program with Olney High School
Comparison = 11th grade students who applied to Academy program, were accepted, but opted to not enroll
Context = randomly selected 10th, 11th and 12th grade Olney High School students

3. All pretests were administered in 1973, posttests in 1974.

4. For each instrument the "T" column indicates time in months elapsed between pretest and posttest.

For the pretest, Comparison and Context groups were administered all instruments in one session. The single time period was the only release-time arrangement possible for Olney students. Since the experimental group sessions were fit into the Academy schedule, two periods were required. The ACE and ACE-Olney students were given the CTBS/CMI in one session and the ASA/SDQ in another session.

For the posttest, the ACE students were tested in February to accommodate early graduation. The ACE-Olney group was completed in

April. These groups were again scheduled in two sessions during Academy class time. The Comparison and Context groups were again tested in a single session in June. The composition of instruments in sessions was the same for pretest and posttest except for the exclusion of the SDQ in the posttest.

All testing was accomplished by the project evaluation staff under standardized administration procedures. Pretest and posttest conditions were made as similar as possible for all groups. Intertest intervals were equated to the degree feasible. For the CTBS Level 4 Form Q was used for the pretest and Level 4 Form R was used for the posttest. The other instruments exist in one form only.

Figures 2 and 3 present data on the numbers and percents of students who completed the various instruments. For the CTBS data completeness ranged from 92% to 100% for the pretest, 79% to 87% for the posttest and 49% to 79% on complete data pairs. For the CMI pretest figures were 88% to 100%, posttest figures were 61% to 79%, and complete data pairs were 51% to 79%. For the ASA pretest completeness ranged from 68% to 100%, posttest from 66% to 82%, and final data pairs from 51% to 79%. For the SDQ returns by group ranged from 66% to 75%.

These percentage rates of return are adequate in all cases for independent pretest or posttest analyses. The sometimes precipitous drop when deriving final data pairs, however, warrants some question as to the representativeness of subsequent analyses. The possible effects of this problem in analyses of change must be considered in the interpretation of results.

Figure 2

FY 1974 Pretest-Posttest Returns
in Numbers of Students

Group \ Instrument	CTBS			CMI			ASA			SDQ
	Pre	Post	C	Pre	Post	C	Pre	Post	C	Pre
1. ACE n = 76	70	66	47	67	57	48	56	62	48	50
2. ACE-Olney n = 76	73	67	37	70	56	47	52	50	47	55
3. Comparison n = 28	28	22	22	28	22	22	28	23	22	20
4. Context n = 81	81	67	55	77	49	41	80	57	41	61

C = Complete data pairs

Figure 3

FY 1974 Pretest-Posttest Returns
In Percents of Students

Group \ Instrument	CTBS			CMI			ASA			SDQ
	Pre	Post	C	Pre	Post	C	Pre	Post	C	Pre
1. ACE n = 76	92	87	62	88	75	63	74	82	63	66
2. ACE-Olney n = 76	96	82	49	92	74	62	68	66	62	72
3. Comparison n = 28	100	79	79	100	79	79	100	82	79	71
4. Context n = 81	100	83	68	95	61	51	99	73	51	75

C = Complete data pairs

Other Instrument Procedures

The pretest-posttest instruments were treated more or less as a package. This section discusses instruments that functioned independently. They were developed for use in the Career Education Program; some were designed specifically for RBS, while others were constructed as common instruments across projects. Each will be discussed individually.

Employer Cluster Tests. These instruments were designed for three sample clusters: Health, Manufacturing and Utilities. They were administered by Counselor-Coordinators at employer sites during the Third Quarter. Pretest and posttest administrations were conducted, but the small numbers of students involved precluded any sophisticated analyses. Resources were not available to pursue the intended line of development on these instruments. The common instruments assumed priority.

Student Opinion Survey. This common instrument was administered by the evaluation staff at mid-year to students in Academy classes.

Parent Opinion Survey. This common instrument was administered by direct mailing at mid-year to all parents of Academy students.

Employer Opinion Survey. This common instrument was administered at mid-year through individual interviews of employer representatives by the evaluation staff.

Career Exploration Student Questionnaire. This form was administered by the Counselor-Coordinators during the last session of each employer course.

Forms. The forms system involves submission of basic data on learning resources available and student progress each quarter. These constitute the foundation of the computer system. Explanation of the numerous procedures involved would be too cumbersome for the present report. For more discussion see Task Reports 15A1, 15B1 and 15C1.

APPENDIX C

Instruments Developed During FY 1974
Book of Measures

INSTRUMENT LISTING

Page

1. Student Demographic Data Questionnaire 13

2. Student Opinion Survey 25

3. Parent Opinion Survey 47

4. Experience Resource Site
   Demographic Data Questionnaire 66

5. Cluster Test of Knowledge 72

6. Assessment of Student Attitudes Scale 101

7. Career Exploration Student Questionnaire 127

8. Employer Questionnaire 131

CAREER EDUCATION PROGRAM

RESEARCH FOR BETTER SCHOOLS

BOOK OF MEASURES

1. NAME OF INSTRUMENT: Student Demographic Data Questionnaire (SDQ)

2. RATIONALE/OBJECTIVES OF INSTRUMENT: This form was designed to collect information on background and demographic characteristics, future plans and basic perceptions of school.

3. RESPONDENT GROUP: The form was designed for any secondary age student including EBCE experimentals and controls.

4. HISTORY OF THE DEVELOPMENT OF THE INSTRUMENT: This type of instrument has been in use in the EBCE projects since their inception. It was standardized in format for all of the projects in FY 74. It has been revised (see Attachment A) for use in FY 75.

5. ITEM CONTENT: Includes name, address, telephone number, birth date, grade level, sex, race, GPA, absence estimate, parental education and occupation, future career plans, reasons for applying to EBCE and school perceptions. Items are multiple choice.

6. ADMINISTRATION PROCEDURES: Amenable to group, individual, or mail administration. Time for completion is approximately 15 minutes. The SDQ was administered once during FY 74.

7. SCORING PROCEDURES/SCORING INTERPRETATIONS: Individual item scores are discrete. Some response fields are scalar. Occupational Scale order is 2, 6, 3, 1, 5, 7, 4 (discrete 8, 9, 10, 11). Occupational and educational scales combine to form SES estimate (Hollingshead). Items are used for descriptive purposes and demographic input analyses.

8. RELIABILITY: Not formally determined.

9. VALIDITY: Not formally determined.

10. DISSEMINATION: Results in group form are provided to NIE and the other EBCE project staffs.

11. **TECHNICAL DESCRIPTION:** The results from the SDQ as administered in FY 74 are found in Attachment B. Analysis has been limited to frequency distributions for each project and the total.

12. **RECOMMENDED REVISIONS:** The instrument as appended in Attachment A represents the recommended revisions for FY 75.

ATTACHMENT A

DATE: ______________________

CAREER EDUCATION PROGRAM

Student Demographic Data Questionnaire

NAME: ____

ADDRESS: ____ ________________________

DATE OF BIRTH: ____________ Month ______ Day ______ Year PHONE NUMBER: __________

A. School grade level as of September 1974

1. ☐ 9th grade
2. ☐ 10th grade
3. ☐ 11th grade
4. ☐ 12th grade

B. Sex

1. ☐ Male
2. ☐ Female

C. Race

1. ☐ Black
2. ☐ White
3. ☐ Asian-American (Oriental)
4. ☐ Hispanic-American (Spanish Surname)
5. ☐ American Indian (Native American)
6. ☐ Other (specify) ____

D. Which of the following is closest to your letter grade average over the last year in school?

1. ☐ F (0.0-0.49)
2. ☐ D (0.5-1.49)
3. ☐ C (1.5-2.49)
4. ☐ B (2.5-3.49)
5. ☐ A (3.5-4.00)

E. Which of the following best describes your absense rate over the last year in school?

1. ☐ absent most of the time
2. ☐ absent very frequently
3. ☐ absent sometimes
4. ☐ absent infrequently
5. ☐ almost never absent

F. What do you expect to be doing after completing your secondary school program? (check as many as apply.)

1. ☐ Full-time employment
2. ☐ Apprenticeship or on-the-job training program
3. ☐ Regular military service or a service academy
4. ☐ Full-time homemaker
5. ☐ Vocational, technical, trade or business school
6. ☐ Study of academic courses at junior or community college
7. ☐ Study of technical or vocational subjects at junior or community college
3. ☐ Four-year college or university
9. ☐ Part-time employment
10. ☐ Other (explain) ______________________________
11. ☐ Don't know

G. What is the highest level of formal education completed by your father?

1. ☐ Elementary school
2. ☐ Junior High School
3. ☐ Some high school training
4. ☐ High school diploma
5. ☐ Some college training
6. ☐ College degree
7. ☐ Some graduate school training
8. ☐ Graduate school degree
9. ☐ Other (specify) ______________________________
10. ☐ Don't know

H. What is the highest level of formal education completed by your mother?

1. ☐ Elementary school
2. ☐ Junior High School
3. ☐ Some high school training
4. ☐ High school diploma
5. ☐ Some college training
6. ☐ College degree
7. ☐ Some graduate school training
8. ☐ Graduate school degree
9. ☐ Other (specity) ______________________________
10. ☐ Don't know

I. From the following rank the first (1), second (2) and third (3) most important reasons why you applied for the Career Education Program

1. ☐ To receive counseling about what to do after I finish school
2. ☐ To have more individual attention in my school program
3. ☐ To find out about careers
4. ☐ To have learning activities outside of the school
5. ☐ To get into a program different from regular school
6. ☐ To get help in finding a job
7. ☐ To make new friends
8. ☐ To get job training
9. ☐ Other (explain) ______________________________

J. Do you plan to get a secondary school diploma?

1. ☐ Yes
2. ☐ No
3. ☐ Not Sure

K. I'd say school is really worthwhile.

Strongly Disagree — Strongly Agree

1 2 3 4 5

L. I've learned a lot from my school program.

Strongly Disagree — Strongly Agree

1 2 3 4 5

FOR THE FOUR QUESTIONS THAT FOLLOW USE ANSWERS FROM THE OCCUPATION SCALE ON THE LAST PAGE OF THIS QUESTIONNAIRE

M. From the list in the OCCUPATION SCALE which category best describes the work done by your father or male guardian?

Category Number ________
If 11 (Other), please explain ________________________________

N. From the list in the OCCUPATION SCALE which category best describes the work done by your mother or female guardian?

Category Number ________
If 11 (Other), please explain ________________________________

O. From the list in the OCCUPATION SCALE which best describes the type of work you plan to do right after you finish your formal education?

Category Number ________
If 11 (Other), please explain ________________________________

P. From the list in the OCCUPATION SCALE which category best describes the type of work you expect to be doing 5 years after you finish your formal education?

Category Number ________
If 11 (Other), please explain ________________________________

OCCUPATION SCALE

1. CLERICAL AND SALES WORKERS, TECHNICIANS, AND OWNERS OF LITTLE BUSINESSES. Examples: bank teller, business machine operator, sales clerk, draftsman, dental technician, newstand owner, tailor shop owner, secretary, receptionist

2. HIGHER EXECUTIVES, PROPRIETORS OF LARGE CONCERNS, AND MAJOR PROFESSIONALS. Examples: bank president, judge, executive director, city manager, department store owner, accountant, doctor, lawyer, military command officer

3. ADMINISTRATIVE PERSONNEL, SMALL INDEPENDENT BUSINESS OWNERS, AND MINOR PROFESSIONALS. Examples: insurance agent, store manager, car dealer, bakery shop owner, gas station owner, photographer, military non-commissioned officer, newspaper reporter, travel agent

4. UNSKILLED EMPLOYEES. Examples: cafeteria worker, laundry worker, messenger, janitor, unskilled factory worker, farm helpers, parking lot attendant, window cleaner, stock handler

5. SKILLED MANUAL EMPLOYEES. Examples: auto body repairer, carpenter, electrician, machinist, painter, plumber, policeman, postman, tailor, printer

6. BUSINESS MANAGERS, PROPRIETORS OF MEDIUM SIZED BUSINESS, AND LESSER PROFESSIONALS. Examples: district manager, police chief, farm manager, postmaster, sales engineer, clothing store owner, real estate broker, theater owner, librarian, military commissioned officer, nurse, teacher, pharmacist, musician

7. MACHINE OPERATORS AND SEMI-SKILLED EMPLOYEES. Examples: assembly line worker, bus driver, foundry worker, meat cutter, roofer, truck driver, welder, military enlisted person

8. HOUSEWIFE

9. UNEMPLOYED

10. UNKNOWN

11. OTHER

ATTACHMENT B

Analysis of Student Demographic Data Questionnaire

Note: Data entries represent percentages of the following total responses:

TOTAL	297
NWREL	45
AEL	45
FWL	55
RBS	152

GRADE LEVEL AT ENTRANCE:

	TOTAL	NWREL	AEL	FWL	RBS
10th	17.8	----	----	30.9	23.7
11th	57.6	57.8	11.1	43.6	76.3
12th	24.6	42.2	88.9	25.5	--

FATHER'S OCCUPATION

	TOTAL	NWREL	AEL	FWL	RBS
Clerical	2.8	2.6	2.2	2.0	3.7
Craftsman	19.1	17.9	11.1	14.3	27.2
Farmer	----	----	----	----	----
Homemaker	----	----	----	----	----
Laborer	14.5	17.9	15.6	8.2	16.1
Administrator	10.7	12.8	22.2	10.2	3.7
Military	2.3	2.6	----	4.1	2.4
Operative	16.4	12.8	24.4	10.2	17.2
Professional	15.4	12.8	17.8	22.4	11.1
Proprietor	3.7	5.1	2.2	10.2	----
Protective Service	4.2	----	----	2.0	9.8
Sales	5.6	12.8	----	10.2	2.4
Service	2.8	2.6	----	4.1	3.7
Techincal	1.4	----	----	2.0	2.4
Other	.5	----	2.2	----	----
Don't Know	.5	----	2.2	----	----

MOTHER'S OCCUPATION

	TOTAL	NWREL	AEL	FWL	RBS
Clerical	17.2	14.6	18.2	23.6	15.6
Craftsman	2.0	----	----	3.6	2.7
Farmer	----	----	----	----	----
Homemaker	28.1	48.8	38.6	21.8	19.3
Laborer	1.6	2.4	2.3	----	1.7
Administrator	4.4	12.2	4.5	7.3	1.7
Military	4.8	----	----	----	11.1
Operative	6.8	4.9	2.3	5.5	10.1
Professional	17.7	9.8	22.7	23.6	15.6
Proprietor	1.6	----	4.5	1.8	0.9
Protective Services	3.6	1.4	----	----	7.4
Sales	7.6	4.9	2.3	5.5	12.1
Service	2.0	----	4.5	3.6	0.9
Technical	1.2	----	----	3.6	0.9
Other	----	----	----	----	----
Don't Know	----	----	----	----	----

AVERAGE ABSENCE RATES:

TOTAL	NWREL	AEL	FWL	RBS
12.3	9.6	12.3	N.A.	13.4

GRADE POINT AVERAGES:

TOTAL	NWREL	AEL	FWL	RBS
1.99	2.27	2.00	N.A.	1.88

POST SECONDARY PLANS:

	TOTAL	NWREL	AEL	FWL	RBS
Full Time Employment	19.1	24.4	31.1	7.4	16.2
Apprenticeship	7.5	11.1	6.7	5.6	7.3
Military	4.1	6.7	2.2	1.9	6.0
Homemaker	0.5	----	2.2	----	----
Vocational School	7.1	11.1	2.2	7.4	7.3
Jr. College-Academic	8.6	8.9	4.4	13.0	7.3
Jr. College-Vocational	8.6	----	----	20.4	10.4
Four Year College	28.3	13.3	35.6	24.1	35.6
Part Time Employment	6.5	6.7	2.2	11.1	6.0
Other	10.0	17.8	13.3	9.3	2.9

FATHER'S EDUCATIONAL LEVEL

	TOTAL	NWREL	AEL	FWL	RBS
None	4.2	----	----	2.1	10.8
Elementary School	11.1	30.3	9.3	----	10.8
Some High School	13.2	----	20.9	8.3	18.5
High School Graduate	30.7	18.2	25.6	31.3	40.0
Some College	20.1	30.3	11.6	29.2	13.8
College Graduate	12.7	21.2	16.3	14.6	4.6
Some Grad. Work	3.7	----	9.3	6.3	----
Advanced Degree	4.2	----	7.0	8.3	1.5

MOTHER'S EDUCATIONAL LEVEL:

	TOTAL	NWREL	AEL	FWL	RBS
None	0.5	----	----	1.8	----
Elementary School	6.4	19.4	4.5	----	5.9
Some High School	14.8	----	15.9	12.7	23.5
High School Graduate	38.4	33.3	40.9	29.1	47.1
Some College	21.2	30.6	15.9	29.1	13.2
College Graduate	12.8	16.7	9.1	18.2	8.8
Some Graduate Work	3.9	----	6.8	9.1	----
Advanced Degrees	2.0	----	6.8	----	1.5

REASON FOR EBCE ENROLLMENT:

	TOTAL	NWREL	AEL	FWL	RBS
Smaller Classes	18.3	----	26.7	----	12.5
Career Exploration	47.7	----	48.9	----	46.9
No Gang Problem	7.3	----	17.8	----	----
Choice of Courses	9.2	----	6.7	----	10.9
Move Around City	5.5	----	----	----	9.4
Individualized Instruction	5.5	----	----	----	9.4
Make New Friends	2.8	----	----	----	4.7
Other	3.7	----	----	----	6.3

ETHNIC BREAK-DOWN

SEX

	TOTAL	NWREL	AEL	FWL	RBS
Male	52.3	51.1	48.9	47.3	59.0
Female	47.7	48.9	51.1	52.7	41.0

RACE

White	59.9	95.6	88.9	54.7	22.0
Black	34.4	----	8.9	28.3	78.0
Other	5.7	4.4	2.2	17.0	----

CAREER EDUCATION PROGRAM

RESEARCH FOR BETTER SCHOOLS

BOOK OF MEASURES

1. NAME OF INSTRUMENT: Student Opinion Survey (SOS)

2. RATIONALE/OBJECTIVES OF INSTRUMENT: To measure opinions and attitudes of EBCE students.

3. RESPONDENT GROUP: All EBCE students.

4. HISTORY OF THE DEVELOPMENT OF THE INSTRUMENT: This instrument was developed as a joint effort of the evaluation staffs of the EBCE projects and NIE for common use by the projects. It was administered once during FY 74; the results of this administration were to be utilized in revision of the instrument for FY 75. The instrument as administered in FY 74 appears in Attachment A.

5. ITEM CONTENT: Attitude toward the program, benefits of the program, attitude toward careers, attitude toward program employers, miscellaneous.

6. ADMINISTRATION PROCEDURES: The instrument was designed for a one-time administration in all four lab sites. It was administered to students in a group format.

7. SCORING PROCEDURES/SCORING INTERPRETATIONS: Most items on this instrument are five-point scalar in nature. Results were typically presented as response category frequencies and means for individual items and groups of items. A mean close to five indicates a strong positive rating; a mean close to one indicates a strong negative rating. An overall instrument score is not appropriate; sub-scores for item groups have not been developed. Attachment C contains a breakdown of means for each EBCE site and the total sample.

8. RELIABILITY: Internal consistency reliability
   KR-20 = .99
   Split-half reliability
   Spearman-Brown = .78

   It should be noted that this instrument was built around two discrete parts (to be described in the technical section).
   KR-20 for the first half = .98
   KR-20 for the second half = .99
   Correlation (biserial) between 1st half and the total test = .99

Correlation (biserial) between 2nd half and total test = .93
Inter-part correlation = .65

9. VALIDITY: Expert validity- The instrument was developed by instrument development specialist. The intent of the instrument was considered by this group during the inclusion of each item.

Construct validity- Results of administration of this instrument were factor analyzed. Five factors were extracted in order to coincide with the five scales indicated in "ITEM CONTENT". A varimax rotation of these five factors yielded two significant orthogonal factors. These factors are essentially: 1) Attitude toward the program, and 2) Why I joined EBCE/Benefits of the program.

The factor matrix is included in Attachment B, Table 1.

When the four factors were rotated, the "Attitude" factor separated into the first three scales indicated under "ITEM CONTENT". More indepth analysis will be described in the technical description.

10. DISSEMINATION: Results have been used by the EBCE program staff for inclusion in Task Reports.

11. TECHNICAL DESCRIPTION: This instrument consists of two discrete parts. The first part contains those items measuring the first five scales included in the item content. The second part contains items relating to the importance of potential learning activities, and the success of the Project in accomplishing the delivery of those learning activities.

Item intercorrelations were computed, and the results charted. These results are included in Attachment B. An examination of the correlation pattern reveals several facets of this instrument: 1) roughly ten items in part one intercorrelate highly; the remainder do not. 2) those same items correlate highly with the "effectiveness" sub-set of part two, 3) almost all items in the "effectiveness" subset of part two intercorrelate highly, 4) there exists almost no correlation between the "Importance" and "Effectiveness" subset of part two.

To further ascertain relationships between parts one and two, a factor analysis of the entire instrument was performed. Two factors emerged as significant. The first factor is entirely dominated by part two, the so-called omnibus item. The second factor contains those items from part one which were soundest technically.

The factor loadings for the two rotated factors are presented in Attachment B, Table 2.

12. RECOMMENDED REVISIONS: It is suggested that the number of items devoted to the concept of part two, the "omnibus" item, be reduced. In addition, it is suggested that items 41 and 42 be deleted.

ATTACHMENT A

Name ______________________________ Date ____________________

Student Opinion Survey

This survey is meant to give you an opportunity to express your opinions about the Career Education Program you have been participating in. Most of the questions are to be answered on a scale of numbers from ① to ⑤. The words at the top and bottom of each set of questions tell you what the numbers mean. A ① may mean something like "Definitely No"; if you feel very strongly that the answer to the question is NO, then you should circle the ①. A ⑤ may mean "Definitely Yes"; if you feel very strongly that the answer is YES, then you should circle the ⑤. The numbers in between (2,3,4) mean that your opinion is neither "Definitely No" nor "Definitely Yes", but somewhere between them. You should circle the number that is closest to your real opinion of what the question is asking about. Some scales have different words, but they always work the same. Read the words above and below the numbers so you know what the numbers mean. Read the questions carefully, and circle the number which is the closest to your opinion. There are no right or wrong answers; your thoughts and feelings are the important things in this survey. The answers students give will be used to help determine how well the program is doing now and to improve it in the future. Remember to circle a number to answer each item. If you have any questions while you've completing the survey, just ask for assistance.

Because this questionnaire is going to be filled out by students in other schools, we have used the phrase "Career Education Program" in many questions. This really means the Academy for Career Education, and you should think of the Academy when answering the questions.

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

	Definitely No				Definitely Yes
1. Have you liked attending the Career Education Program?	1	2	3	4	5
2. If you had it to do over again, do you think you would decide to participate in the Career Education Program?	1	2	3	4	5
3. Have the activities available in the Career Education Program been interesting to you?	1	2	3	4	5
4. In the Career Education Program have you felt that you could progress at your own rate?	1	2	3	4	5
5. Have you seen much of a relationship between your activities in the learning center and the careers you have learned about?	1	2	3	4	5
6. Do you get enough feedback about how well you are doing in the program?	1	2	3	4	5
7. Have you had enough choice in deciding the amount of time you spend at employer sites?	1	2	3	4	5
8. Have you had enough choice in deciding the amount of time you spend in learning academic subjects?	1	2	3	4	5
9. Have you had enough choice in deciding what you do at employer/resource sites?	1	2	3	4	5
10. Have you had enough choice in selecting the types of employer/resource sites you visit?	1	2	3	4	5
11. Do most people receive much satisfaction from their work?	1	2	3	4	5
12. Do you think that if a person works hard enough, he can achieve anything?	1	2	3	4	5
	Definitely No				Definitely Yes

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

	Definitely No				Definitely Yes
13. Do you think that the main reason a person works is to earn enough money to live?	1	2	3	4	5
14. In general, are you looking forward to working in a job?	1	2	3	4	5
15. Do you think you have much choice of occupations?	1	2	3	4	5
16. In general, were the employer/resource personnel involved in the Career Education Program aware of your needs and interests?	1	2	3	4	5
17. In general, at employer/resource sites did you get to actually do things, rather than just listen?	1	2	3	4	5
18. In general, have the employer/resource sites you've visited been interested in the Career Education Program?	1	2	3	4	5
19. In general, have you felt welcome at the employer/resource sites?	1	2	3	4	5
20. Do most of the employer/resource sites you have worked with let you know how you're progressing?	1	2	3	4	5
21. Through your experiences in the Career Education Program have you learned a lot about opportunities for the future?	1	2	3	4	5
22. Do you plan to get a secondary school diploma?	1	2	3	4	5
23. Would you say the Career Education Program has helped you form career plans?	1	2	3	4	5
24. Would you say you've learned a lot while attending the Career Education Program?	1	2	3	4	5
	Definitely No				Definitely Yes

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

	Poor				Excellent
25. How well organized and coordinated do you think the Career Education Program has been?	1	2	3	4	5
26. How would you rate the general quality of the Career Education Program staff?	1	2	3	4	5
27. How would you rate the personal counseling available in the Career Education Program?	1	2	3	4	5
28. How would you rate the career counseling available in the Career Education Program?	1	2	3	4	5
29. How would you rate the general quality of the Career Education Program employer/resources you've worked with?	1	2	3	4	5
	Poor				Excellent

	Not at all Important				Extremely Important
30. How important was each of the following factors in deciding to join the Career Education Program?					
a. I wanted more freedom/independence	1	2	3	4	5
b. I wanted to choose my own learning style	1	2	3	4	5
c. I wanted to learn about careers	1	2	3	4	5
d. I didn't like my previous school	1	2	3	4	5
e. I wanted to prepare for a job	1	2	3	4	5
f. I was bored with school	1	2	3	4	5
g. I heard the Career Educaiton Program was easy	1	2	3	4	5
h. Other (specify) ________________	1	2	3	4	5
	Not at all Important				Extremely Important

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

	Much Less		About the Same		Much More
31. In comparison with regular schools, how much opportunity did the Career Education Program provide you for learning about occupations?	1	2	3	4	5
32. In comparison with regular schools, how much opportunity did the Career Education Program provide you for general learning?	1	2	3	4	5
33. In comparison with past experiences in regular schools, how motivated are you to learn in the Career Education Program?	1	2	3	4	5
	Much Less		About the Same		Much More

34. During this school year have you worked outside of home for money?

a. ☐ No

b. ☐ Yes, less than 10 hours a week

c. ☐ Yes, between 10 and 20 hours a week

d. ☐ Yes, between 20 and 30 hours a week

e. ☐ Yes, more than 30 hours a week

35. If you have an outside job, does it interfere with anything listed below?

a. ☐ I don't have an outside job

b. ☐ My job doesn't interfere with any other activities

c. ☐ It interferes with my school work

d. ☐ It interferes with my social life

e. ☐ It interferes with my extracurricular activities

36. What changes, if any, would you like to see in the Career Education Program?

____

____

____

Below are listed some areas of possible importance for a student to learn. Please rate each in terms of how important *you* feel it is for a student to learn, and how well you feel the program is accomplishing each.

		How Important Do You Feel This Learning Is?					How Effective Do You Feel the Project Has Been in Accomplishing This Learning?				
	Students learn to:	Not Important				Highly Important	Not Effective				Highly Effective
a.	Perform specific occupational skills	1	2	3	4	5	1	2	3	4	5
b.	Be punctual and organize their time	1	2	3	4	5	1	2	3	4	5
c.	Assume responsibility for themselves	1	2	3	4	5	1	2	3	4	5
d.	Make decisions and follow through	1	2	3	4	5	1	2	3	4	5
e.	Communicate with others in a mature way	1	2	3	4	5	1	2	3	4	5
f.	Be aware of more career opportunities	1	2	3	4	5	1	2	3	4	5
g.	Work with others	1	2	3	4	5	1	2	3	4	5
h.	Evalute their own work	1	2	3	4	5	1	2	3	4	5
i.	Perform basic academic skills	1	2	3	4	5	1	2	3	4	5
j.	Think through and solve problems	1	2	3	4	5	1	2	3	4	5
k.	Have a positive attitude toward self	1	2	3	4	5	1	2	3	4	5
l.	Have a positive attitude toward work	1	2	3	4	5	1	2	3	4	5
m.	Have a positive attitude toward learning	1	2	3	4	5	1	2	3	4	5
n.	Prepare for further education	1	2	3	4	5	1	2	3	4	5
o.	Improve interpersonal and social skills	1	2	3	4	5	1	2	3	4	5
p.	Other (please specify)__________ ____________________	1	2	3	4	5	1	2	3	4	5

ATTACHMENT B

TABLE 1

FACTOR SCORES

		LOADINGS	
SCALE	ITEM	F 1	F 2
	1	0.744	-
	2	0.710	-
	3	0.764	-
	4	0.697	-
	5	0.734	-
	6	0.673	-
	7	0.706	-
	8	0.759	-
	9	0.720	-
	10	0.722	-
	11	0.609	-
	12	0.655	-
	13	-	0.508
	14.	0.663	-
"Attitude toward Program"	15	0.677	-
	16	0.727	-
	17	0.700	-
	18	0.701	-
	19	0.712	-
	20	0.637	-
	21	0.731	-
	22	0.564	-
	23	0.741	-
	24	0.732	-
	25	0.733	-
	26	0.777	-
	27	0.696	-
	28	0.767	-
	29	0.792	-
"Benefits of the Program/ Why I joined EBCE"	30	0.368	0.695
	31	0.419	0.699
	32	0.629	0.614
	33	0.248	0.657
	34	0.579	0.531
	35	0.198	0.742
	36	0.314	0.369
	37	0.153	0.143
"Attitude Toward Program"	38	0.695	0.608
	39	0.634	-
	40	0.693	-
	41	-	-
"Miscellaneous"	42	-	-

TABLE 2

FACTOR LOADINGS

ITEM	F 1	F 2
1	0.309	0.847
2	0.350	0.734
3	0.336	0.813
4	0.345	0.781
5	0.316	0.722
6	0.347	0.617
7	0.223	0.648
8	0.270	0.670
9	0.286	0.678
10	0.259	0.718
11	0.189	0.654
12	0.271	0.738
13	0.183	0.521
14	0.252	0.776
15	0.248	0.770
16	0.280	0.709
17	0.312	0.676
18	0.340	0.769
19	0.310	0.804
20	0.313	0.575
21	0.292	0.814
22	0.266	0.676
23	0.240	0.798
24	0.306	0.817
25	0.230	0.783
26	0.290	0.828
27	0.262	0.777
28	0.289	0.749
29	0.310	0.829
30	0.135	0.683
31	0.124	0.745
32	0.257	0.813
33	0.097	0.578
34	0.217	0.730
35	0.074	0.587
36	0.098	0.445
37	-0.002	0.241
38	0.312	0.858
39	0.314	0.759
40	0.296	0.808
41	0.088	0.390
42	0.175	0.207
43	0.836	0.345

TABLE 2 (Continued)

FACTOR LOADINGS

ITEM	F 1	F 2
44	0.847	0.346
45	0.869	0.341
46	0.855	0.342
47	0.877	0.317
48	0.876	0.338
49	0.847	0.332
50	0.826	0.314
51	0.840	0.289
52	0.862	0.337
53	0.855	0.341
54	0.848	0.331
55	0.856	0.326
56	0.837	0.303
57	0.844	0.292
58	0.466	0.020
59	0.821	0.293
60	0.841	0.290
61	0.879	0.291
62	0.883	0.288
63	0.876	0.290
64	0.905	0.288
65	0.882	0.287
66	0.850	0.251
67	0.820	0.238
68	0.862	0.267
69	0.861	0.265
70	0.864	0.271
71	0.866	0.280
72	0.864	0.272
73	0.825	0.246
74	0.484	0.017

ATTACHMENT C

Note: Data entries represent percentages and/or ratings of the following total responses:

TOTAL	281
NWREL	43
FWL	55
AEL	44
RBS	139

Table 1

Student Opinion Survey Pretest

Opinion of Program

Item		Total	RWREL	FWL	AEL	RBS
1.	Have you liked attending the Career Education Program?	4.28	4.47	4.54	4.55	3.99
2.	If you had it to do over again, do you think you would decide to participate in the Career Education Program?	4.00	4.21	4.46	4.55	3.50
3.	Have the activities available in the Career Education Program been interesting to you?	4.06	3.98	4.08	4.21	4.02
4.	In the Career Education Program have you felt that you could progress at your own rate?	4.33	4.09	4.42	4.36	4.37
5.	Have you seen much of a relationship between your activities in the learning center and the careers you have learned about?	3.58	3.61	3.79	4.01	3.29
6.	Do you get enough feedback about how well you are doing in the program?	3.51	3.86	3.58	3.93	3.17
7.	Have you had enough choice in deciding the amount of time you spend at employer sites?	3.47	3.84	4.29	4.16	2.67
8.	Have you had enough choice in deciding the amount of time you spend in learning academic subjects?	3.48	3.67	3.87	4.09	2.99
9.	Have you had enough choice in deciding what you do at employer/resource sites?	3.34	3.63	3.79	3.96	2.77
10.	Have you had enough choice in selecting the types of employer/resource sites you visit?	3.92	4.05	4.31	4.47	3.49
21.	Through your experiences in the Career Education Program have you learned a lot about opportunities for the future?	4.23	4.26	4.08	4.32	4.26
23.	Would you say the Career Education Program has helped you form career plans?	4.14	4.26	4.27	4.46	3.89
24.	Would you say you've learned a lot while attending the Career Education Program?	4.23	4.40	4.35	4.41	4.04
25.	How well organized and coordinated do you think the Career Education Program has been?	3.51	3.63	3.44	3.75	3.34
26.	How would you rate the general quality of the Career Education Program staff?	4.04	4.33	3.96	4.23	3.90
27.	How would you rate the personal counseling available in the Career Education Program?	4.08	4.70	4.25	4.35	3.65
28.	How would you rate the career counseling available in the Career Education Program?	3.87	4.12	3.81	4.21	3.68
29.	How would you rate the general quality of the Career Education Program employer/resources you've worked with?	3.82	3.79	3.83	4.05	3.75
	Averages	3.88	4.05	4.06	4.23	3.60

Means on scale from 1 = low to 5 = high

Table 2

Student Opinion Survey Pretest

Opinions of Employer/Resources

Item	Total	NWREL	FWL	AEL	RBS
16. In general, were the employer/resource personnel involved in the Career Education Program aware of your needs and interests	3.51	3.74	3.58	3.64	3.35
17. In general, at employer/resource sites did you get to actually do things, rather than just listen?	3.70	4.28	3.65	4.39	3.23
18. In general, have the employer/resource sites you've visited been interested in the Career Education Program?	3.92	4.00	4.00	4.14	3.76
19. In general, have you felt welcome at the employer/resource sites?	4.13	4.00	4.35	4.30	4.00
20. Do most of the employer/resource sites you have worked with let you know how you're progressing?	2.91	3.44	3.08	3.09	2.55
Averages	3.63	3.89	3.73	3.91	3.38

Means on scale from 1 = low to 5 - high

Table 3

Student Opinion Survey Pretest

Opinion Comparative to Traditional Schools

Item	Total	NWREL	FWL	AEL	RBS
31. In comparison with regular schools, how much opportunity did the Career Education Program provide you for learning about occupations?	4.67	4.79	4.77	4.84	4.50
32. In comparison with regular schools, how much opportunity did the Career Education Program provide you for general learning?	3.87	4.00	3.69	3.71	3.97
33. In comparison with past experiences in regular schools, how motivated are you to learn in the Career Education Program?	4.22	4.47	4.44	4.30	3.99
Averages	4.25	4.42	4.30	4.28	4.15

Means on scale from 1=low to 5=high

Table 4

Student Opinion Survey Pretest

Vocational Attitudes

Item	Total	NWREL	FWL	AEL	RBS
11. Do most people receive much satisfaction from their work?	3.57	3.67	3.39	3.77	3.58
12. Do you think that if a person works hard enough, he can achieve anthing?	4.39	4.40	4.17	4.25	4.41
13. Do you think that the main reason a person works is to earn enough money to live?	3.38	3.72	3.17	3.30	3.39
14. In general, are you looking forward to working in a job?	4.29	3.84	4.21	4.30	4.50
15. Do you think you have much choice of occupations?	4.15	3.98	4.27	4.19	4.15
Averages	3.96	3.92	3.84	3.96	4.01

Means on scale from 1=low to 5=high

Table 5

Student Opinion Survey Pretest

Omnibus Question

Item: Below are listed some areas of possible importance for a student to learn. Please rate each in terms of how important you feel it is for a student to learn, and how well you feel the program is accomplishing each.

Subparts	Importance					Effectiveness				
	Total	NWREL	FWL	AEL	RBS	TOTAL	NWREL	FWL	AEL	RBS
Students learn to:										
a. Perform specific occupational skills	4.22	4.24	3.87	4.64	4.18	3.83	4.10	3.67	4.11	3.61
b. Be punctual and organize their time	4.35	4.40	4.40	4.34	4.31	3.83	4.02	3.96	3.80	3.65
c. Assume responsibility for themselves	4.63	4.58	4.81	4.66	4.53	4.19	4.24	4.35	4.46	3.92
d. Make decisions and follow through	4.51	4.65	4.51	4.71	4.33	4.11	4.20	4.22	4.39	3.82
e. Communicate with others in a mature way	4.51	4.49	4.40	4.59	4.54	4.01	4.19	4.09	4.27	3.71
f. Be aware of more career opportunities	4.55	4.42	4.53	4.73	4.53	4.45	4.48	4.50	4.59	4.32
g. Work with others	4.44	4.77	4.17	4.57	4.35	4.24	4.37	4.09	4.61	4.04
h. Evaluate their own work	4.07	3.95	4.04	4.43	3.94	3.86	3.91	3.74	4.11	3.74
i. Perform basic academic skills	4.11	4.07	3.98	4.18	4.18	3.84	4.12	3.39	4.19	3.74
j. Think through and solve problems	4.49	4.45	4.55	4.59	4.42	3.97	4.14	4.09	4.23	3.64
k. Have a positive attitude toward self	4.53	4.51	4.35	4.77	4.51	3.97	4.07	3.78	4.19	3.91
l. Have a positive attitude toward work	4.48	4.33	4.65	4.66	4.37	3.94	4.00	3.98	4.73	3.71
m. Have a positive attitude toward learning	4.56	4.52	4.49	4.58	4.62	4.12	4.21	4.22	4.21	3.96
n. Prepare for further education	4.19	3.71	4.48	4.25	4.24	3.96	3.91	4.02	4.11	3.85
o. Improve interpersonal and social skills	4.22	4.15	4.32	4.52	4.05	3.92	4.07	4.02	4.10	3.66
p. Other (please specify)_______ ______________	4.31	4.33	5.00	4.25	4.17	4.00	4.00	4.50	3.88	4.00
Averages	4.39	4.35	4.41	4.53	4.33	4.02	4.13	4.04	4.22	3.83

Table 6

Student Opinion Survey Pretest

Reasons for Entering the Career Education Program

Item	Total	NWREL	FWL	AEL	RBS
30. How important was each of the following factors in deciding to join the Career Education Program?					
a. I wanted more freedom/ independence	3.79	4.02	4.02	3.96	3.52
b. I wanted to choose my own learning style	4.03	4.07	4.42	4.14	3.79
c. I wanted to learn about careers	4.37	4.47	4.33	4.52	4.29
d. I didn't like my previous school	3.34	3.72	3.71	3.23	3.13
e. I wanted to prepare for a job	4.07	4.21	3.58	4.34	4.13
f. I was bored with school	3.40	4.00	4.00	3.43	2.87
g. I heard the Career Education Program was easy	2.12	2.02	2.06	2.44	2.05
h. Other (specify)	4.34	4.55	4.62	4.80	3.90
Averages	3.68	3.88	3.84	3.86	3.46

Means on scale from 1 = low

Table 7

Student Opinion Survey Pretest

Other Items

22. Do you plan to get a secondary school diploma?

Response	Total	NWREL	FWL	AEL	RBS
1. Definitely No	14	5			9
2.	9	4			5
3.	41	13		3	23
4.	29	5	1		25
5. Definitely Yes	154	15	51	41	47
Average	4.22	3.50	4.98	4.86	3.86

34. During this school year have you worked outside of home for money?

	% of Responses				
Response	Total	NWREL	FWL	AEL	RBS
1. No	48.0	18.6	46.2	42.9	62.2
2. Yes, less than 10 hours a week	14.1	23.3	19.2	16.7	7.2
3. Yes, between 10 and 20 hours a week	21.0	32.6	21.2	26.2	14.4
4. Yes, between 20 and 30 hours a week	6.5	9.3	9.6	2.4	5.4
5. Yes, more than 30 hours a week	10.4	16.3	3.8	11.9	10.8

35. If you have an outside job,

	% of Responses				
Response	Total	NWREL	FWL	AEL	RBS
1. I don't have an outside job	55.1	39.0	50.0	54.4	65.9
2. My job doesn't interfere with any other activities	28.7	36.6	38.5	28.6	19.3
3. It interferes with my school work	5.1	9.8	7.7	2.8	2.3
4. It interferes with my social life	8.3	14.6	3.8	11.4	6.8
5. It interferes with my extra curricular activities	2.8	0.0	0.0	2.8	5.7

CAREER EDUCATION PROGRAM

RESEARCH FOR BETTER SCHOOLS

BOOK OF MEASURES

1. NAME OF INSTRUMENT: Parent Opinion Survey (POS)

2. RATIONALE/OBJECTIVES OF INSTRUMENT: To measure opinions and attitudes of Parents of EBCE students.

3. RESPONDENT GROUP: Parents of EBCE students.

4. HISTORY OF DEVELOPMENT: This instrument was developed as a joint effort of the evaluation staffs of the EBCE projects and NIE for common use by the projects. It was administered once during FY 74; the results of this administration were to be utilized in revision of the instrument for FY 75. The instrument as administered in FY 74 is included in Attachment A.

5. ITEM CONTENT: Attitude toward the program, benefits of the program, interaction with the program, ratings of staff.

6. ADMINISTRATION PROCEDURES: The instrument was designed for a one-time administration in all four Lab sites. Parent Opinion Surveys have been mailed out with a pre-paid return envelope.

7. SCORING PROCEDURES/INTERPRETATIONS: Most items on this instrument are five-point scalar in nature. Results were typically presented as response category frequencies and means for individual items and groups of items. A mean close to five indicates a strong positive rating; a mean close to one indicates a strong negative rating. An overall instrument score is not appropriate; sub-scores for item groups have not been developed. Attachment C contains a breakdown of means for each EBCE site and the total sample.

8. RELIABILITY: Internal consistency Reliability:
   K-20 = .93
   Split-Half Reliability:
   Spearman-Brown = .55

   It should be noted that this instrument was built around two discrete parts (to be described in the technical description).
   KR-20 for the first half = .81
   KR-20 for the second half = .95
   Correlation (Biserial) between 1st half and total test = .67
   Correlation (Biserial) between 2nd half and total test = .94
   Inter-part correlation = .38

9. **VALIDITY:** Expert validity- The instrument was developed by instrument development specialists. The intent of the instrument was considered by this group during the inclusion of each item.

Construct validity- Results of administration of this instrument were factor analyzed. Five factors were extracted, in order to coincide with the five scales indicated in "Item Content."

A varimax rotation of those five factors yielded two significant orthogonal factors. These factors are essentially 1) attitude toward the program, and 2) ratings of staff.

The factor matrix is included below.

TABLE 1 -- Factor Scores

SCALE	ITEM	F 1	F 2
"Attitude toward Program"	1	.76	-
	2	.82	-
	3	.69	-
	6	.33	-
"Benefits of the Program"	7	.65	-
	8	.57	-
	9	.57	-
	10	.52	-
	11	.64	-
"Interaction with Program"	14	.34	-
	15	-	.35
	16	-	.36
"Ratings of Staff"	17	-	.59
	18	-	.44
	19	-	.79
	20	-	.82
"Miscellaneous"	21	-	-
	22	-	-

The initial constructs used during development have fairly well been borne out by the factor analysis. More in-depth analysis will be described in the technical description.

10. **DISSEMINATION:** Results have been used by EBCE program staff for inclusion in Task Reports.

11. **TECHNICAL DESCRIPTION**: This instrument consists of two discrete parts. The first part contains those items measuring the five scales included in the item content. The second part contains items relating to the importance of potential learning activities, and the success of the project in accomplishing the delivery of those learning activities.

Item intercorrelations were computed, and the results charted. These results are included in Attachment B. An examination of the correlation pattern reveals several facets of the instrument: 1) seven items in part one intercorrelate highly; the remainder do not. 2) those same seven items correlate fairly well with the "effectiveness" sub-set of part two, 3) almost all items in the "effectiveness" sub-set of part two incorrelate very highly, 4) there exists almost no correlation between the "Importance" and "Effectiveness" subsets of part two.

To further ascertain relationships between parts one and two, a factor analysis of the entire instrument was performed. Two factors emerged as significant. The first factor is entirely dominated by part two, the so-called omnibus item. The second factor contains those items from part one which were soundest technically, as well as the effectiveness items from part two.

Table 1, Attachment B, lists factor loadings for the two rotated factors.

12. **RECOMMENDED REVISIONS**: It is suggested that the number of items devoted to the concept of part two, the "omnibus" item, be reduced. In addition, it is suggested that items 21 and 22 be deleted.

ATTACHMENT A

Parent Opinion Survey

This survey is meant to give you an opportunity to express your opinions about the Career Education Program your son or daughter has been participating in. Most of the questions are to be answered on a scale of numbers from ① to ⑤. The phrases at the top and bottom of each set of questions indicate what the scale means. A ① may mean something like "Definitely No"; if you feel strongly that the answer to the question is No, then you should circle the ① A ⑤ may mean "Definitely Yes"; if you feel strongly that the answer is Yes, then you should circle the ⑤. The numbers in between (2,3,4) indicate an opinion somewhere in-between "Definitely No" and "Definitely Yes". Some scales have different phrases, but they all work the same way.

Read the phrase above and below the numbers so you know what the scale means, then read each question, and circle the number which is closest to your opinion. There are no right or wrong answers; your thoughts and feelings are the important things in this survey. The answers parents give will help determine how well the program is doing now and improve it in the future. Remember to circle a number for each item. Thank you for taking the time to fill out this survey. Individual results will be kept confidential.

Career Education Program

Parent Opinion Survey

1. How well does the Career Education Program compare overall with the past school experiences of your daughter or son?

Much Worse				Much Better
1	2	3	4	5

2. If you had it to do over again, would you want your son or daughter to participate in the Career Education Program?

Definitely NO				Definitely YES
1	2	3	4	5

3. How well do you think your son or daughter likes the Career Education Program compared with past school experiences?

Much Worse				Much Better
1	2	3	4	5

4. What do you think are the greatest weaknesses of the Career Education Program?

5. What do you think are the greatest strengths of the Career Education Program?

6. Have you received enough information about your son or daughter's progress in the Career Education Program?

Definitely NO				Definitely YES
1	2	3	4	5

7. In comparison with regular schools how much opportunity did the Career Education Program provide your daughter or son for learning about occupations?

Much Less		About the Same		Much More
1	2	3	4	5

8. What effect, if any, has the Career Education Program had on helping your son or daughter form career plans?

Definitely Bad		No Effect		Definitely Good
1	2	3	4	5

9. In comparison with regular schools how much opportunity did the Career Education Program provide your daughter or son for general learning?

Much Less		About the Same		Much More
1	2	3	4	5

10. In comparison with past experiences in regular schools how motivated is your daughter or son to learn in the Career Education Program?

Much Less		About the Same		Much More
1	2	3	4	5

11. How would you rate the approaches to learning used in the Career Education Program?

Poor				Excellent
1	2	3	4	5

12. What positive changes have you noticed in your son or daughter that might be a result of participation in the Career Education Program?

____

____

____

13. What negative changes have you noticed in your daughter that might be a result of participation in the Career Education Program?

____

____

____

14. How often does your son or daughter talk to you about what's going on in the Career Education Program?

Almost Never				Almost Daily
1	2	3	4	5

15. About how often have you had any contact with any Career Education Program staff members?

Almost Never				Very Frequently
1	2	3	4	5

16. How many meetings have you attended during this school year where other parents of Career Education Students were present?

None	1	2	3	4 or More

17. How would you rate the general quality of the Career Education Program staff?

Poor				Excellent
1	2	3	4	5

18. How would you rate business and community resources available in the Career Education Program?

Poor				Excellent
1	2	3	4	5

19. How would you rate your overall relationship with the staff of the Career Education Program?

Poor				Excellent
1	2	3	4	5

20. How would you rate the enthusiasm of the Career Education Program staff?

Poor				Excellent
1	2	3	4	5

21. What do you think of the occupational plans of your daughter or son?

a. ☐ There aren't any firm plans yet.

b. ☐ The plans should be changed.

c. ☐ The plans seem to be good.

d. ☐ We haven't really had a chance to discuss the plans.

22. What do you think your son or daughter will be doing a year after high school?

a. ☐ Working

b. ☐ Attending some kind of college

c. ☐ Going to a business or trade school

d. ☐ Military

e. ☐ Other (please specify) ______________________________

23. Below are listed some areas of possible importance for a student to learn. Please rate each in terms of how important you feel it is for a student to learn, and how well you feel the program is accomplishing each.

		How Important Do You Feel This Learning Is?					How Effective Do You Feel the Project Has Been in Accomplishing This Learning?				
Students learn to:		Not Important				Highly Important	Not Effective				Highly Effective
a.	Perform specific occupational skills	1	2	3	4	5	1	2	3	4	5
b.	Be punctual and organize their time	1	2	3	4	5	1	2	3	4	5
c.	Assume responsibility for themselves	1	2	3	4	5	1	2	3	4	5
d.	Make decisions and follow through	1	2	3	4	5	1	2	3	4	5
e.	Communicate with others in a mature way	1	2	3	4	5	1	2	3	4	5
f.	Be aware of more career opportunities	1	2	3	4	5	1	2	3	4	5
g.	Work with others	1	2	3	4	5	1	2	3	4	5
h.	Evalute their own work	1	2	3	4	5	1	2	3	4	5
i.	Perform basic academic skills	1	2	3	4	5	1	2	3	4	5
j.	Think through and solve problems	1	2	3	4	5	1	2	3	4	5
k.	Have a positive attitude toward self	1	2	3	4	5	1	2	3	4	5
l.	Have a positive attitude toward work	1	2	3	4	5	1	2	3	4	5
m.	Have a positive attitude toward learning	1	2	3	4	5	1	2	3	4	5
n.	Prepare for further education	1	2	3	4	5	1	2	3	4	5
o.	Improve interpersonal and social skills	1	2	3	4	5	1	2	3	4	5
p.	Other (please specify)____________ ______________________________	1	2	3	4	5	1	2	3	4	5

24. How did you first hear about the Career Education Program?

____

____

____

____

25. What kind of students do you think benefit most from Career Education Programs?

____

____

____

____

ATTACHMENT B

TABLE 1
Factor Loadings P.O.S.

SCALE	ITEM	F 1	F 2
Attitude Toward Program	1	-0.070	0.659
	2	-0.135	0.605
	3	-0.136	0.595
	6	0.119	0.336
	7	-0.046	0.589
Benefits of the Program	8	0.041	0.539
	9	0.021	0.582
	10	-0.018	0.546
	11	0.007	0.638
	14	-0.001	0.279
	15	0.127	0.107
	16	-0.040	0.097
	17	0.081	0.400
Ratings of Staff	18	-0.101	0.352
	19	-0.071	0.319
	20	-0.039	0.230
	21	0.120	0.259
	22	0.055	0.079
Omnibus Item	23	0.447	0.148
	24	0.764	-0.099
	25	0.903	-0.059
	26	0.815	-0.154
	27	0.812	-0.079
Importance Items	28	0.703	-0.009
	29	0.755	-0.041
	30	0.682	0.093
	31	0.388	0.118
	32	0.891	-0.052
	33	0.674	0.022
	34	0.556	0.010
	35	0.670	0.068
	36	0.673	-0.054
Effectiveness Items	37	0.723	0.002
	38	0.276	0.167
	39	0.411	0.486
	40	0.530	0.591
	41	0.565	0.553
	42	0.557	0.615
	43	0.506	0.609
	44	0.533	0.575
	45	0.499	0.644
	46	0.500	0.587
	47	0.480	0.626
	48	0.494	0.666
	49	0.516	0.622
	50	0.505	0.709
	51	0.532	0.681
	52	0.512	0.697
	53	0.516	0.647
	54	0.281	0.236

ATTACHMENT C

Note: Data entries represent percentages and/or ratings of the following total responses.

Total	159
NWREL	28
FWL	34
AEL	30
RBS	67

Table 1
Parent Opinion Survey
Attitude Toward the Program in General

Items	Total	NWREL	FWL	AEL	RBS
1. How well does the Career Education Program compare overall with the past school experiences of your daughter/son?	4.40	4.37	4.23	4.43	4.47
2. If you had it to do over again, would you want your son/daughter to participate in the Career Education Program?	4.54	4.67	4.41	4.77	4.43
3. How well do you think your son or daughter likes the Career Education Program compared with past school experiences?	4.68	4.63	4.79	4.80	4.58
Averages	4.54	4.56	4.48	4.67	4.49

Table 2
Parent Opinion Survey
Interaction With Program

Items	Total	NWREL	FWL	AEL	RBS
14. How often does your son or daughter talk to you about what's going on in the Career Education Program?	4.02	3.79	3.82	4.40	4.05
15. About how often have you had any contact with any Career Education Program Staff Members?	2.63	2.69	2.47	2.47	2.77
Average	3.33	3.24	3.15	3.44	3.41

Average #

Items	Total	NWREL	FWL	AEL	RBS
16. How many meetings have you attended during this school year where other parents of Career Education Students were present?	0.93	1.50	0.68	0.93	0.81

Table 3
Parent Opinion Survey
Benefits of the Program

Items	Total	NWREL	FWL	AEL	RBS
6. Have you received enough information about your son or daughter's progress in the Career Education Program?	3.79	4.11	2.71	4.23	4.00
7. In comparison with regular schools how much opportunity did the Career Education Program provide your daughter or son for learning about occupations?	4.76	4.74	4.77	4.77	4.76
8. What effect, if any, has the Career Education Program had on helping your son or daughter form career plans?	4.31	4.31	4.24	4.17	4.41
9. In comparison with regular schools how much opportunity did the Career Education Program provide your son or daughter for General Learning?	4.25	4.41	3.71	4.07	4.53
10. In comparison with past experiences in regular schools how motivated is your daughter or son to learn in the Career Education Program?	4.50	4.48	4.62	4.40	4.49
11. How would you rate the approaches to learning used in this Career Education Program?	4.39	4.44	4.27	4.30	4.45
Average	4.33	4.42	4.39	4.32	4.44

Table 4
Parent Opinion Survey
Opinion of Staff

Items	Total	NWREL	FWL	AEL	RBS
17. How would you rate the general quality of the Career Education Program Staff?	4.36	4.48	3.96	4.42	4.46
18. How would you rate business and community resources available in the Career Education Program?	4.29	4.69	4.17	4.14	4.24
19. How would you rate your overall relationship with the Staff of the Career Education Program?	3.85	4.23	3.93	3.56	3.77
20. How would you rate the enthusiasm of the Career Education Program Staff?	4.47	4.84	4.35	4.35	4.44
Averages	4.24	4.56	4.10	4.12	4.23

Table 5
Parent Opinion Survey
Miscellaneous

21. What do you think of the occupational plans of your son or daughter?

Response	% of Responses Total	NWREL	FWL	AEL	RBS
A. There aren't any firm plans yet.	49.7	63.0	58.8	56.7	35.9
B. The plans should be changed.	1.9	3.7	2.9	0.0	1.6
C. The plans seem to be good.	43.9	29.6	32.4	40.0	57.8
D. We haven't really had a chance to discuss the plans.	4.5	3.7	5.9	3.3	4.7

22. What do you think your son or daughter will be doing a year after High School?

Response	% of Responses Total	NWREL	FWL	AEL	RBS
A. Working	26.0	37.0	12.5	11.1	34.9
B. Attending some kind of college	43.8	25.9	71.9	40.7	38.3
C. Going to a business or trade school	15.8	25.9	6.3	11.1	18.4
D. Military	8.2	11.1	6.3	7.4	8.4
E. Other	6.2	0.0	3.1	29.6	0.0

Table 6

Parent Opinion Survey

23. Below are listed some areas of possible importance for a student to learn. Please rate each in terms of how important you feel it is for a student to learn, and how well you feel the program is accomplishing each.

	Important					Effective				
Students learn to:	Total	NWREL	FWL	AEL	RBS	Total	NWREL	FWL	AEL	RBS
a. Perform specific occupational skills	4.46	4.50	4.00	4.18	4.80	3.96	4.15	3.75	4.00	3.97
b. Be punctual and organize their time	4.84	4.86	4.85	4.76	4.89	4.01	3.82	3.82	3.97	4.21
c. Assume responsibility for themselves	4.93	4.93	4.97	4.93	4.94	4.40	4.04	4.47	4.38	4.52
d. Make decisions and follow through	4.84	4.89	4.97	4.83	4.80	4.14	3.96	4.15	4.17	4.21
e. Communicate with others in a mature way	4.89	4.82	4.82	4.90	4.95	4.39	4.33	4.29	4.38	4.48
f. Be aware of more career opportunities	4.69	4.64	4.47	4.62	4.80	4.51	4.56	4.41	4.38	4.60
g. Work with others	4.79	4.86	4.68	4.79	4.83	4.42	4.37	4.12	4.64	4.50
h. Evaluate their own work	4.62	4.50	4.61	4.66	4.67	4.01	3.96	4.15	3.86	4.03
i. Perform basic academic skills	4.67	4.61	4.67	4.62	4.72	3.90	3.89	3.44	4.15	4.03
j. Think through and solve problems	4.85	4.86	4.88	4.83	4.86	4.10	4.04	4.24	4.07	4.07
k. Have a positive attitude toward self	4.87	4.75	4.91	4.82	4.97	4.36	4.15	4.47	4.37	4.39
l. Have a positive attitude toward work	4.84	4.86	4.82	4.79	4.96	4.21	4.19	4.12	4.21	4.28
m. Have a positive attitude toward learning	4.82	4.82	4.88	4.69	4.86	4.18	4.07	4.15	4.11	4.28
n. Prepare for futher education	4.63	4.43	4.62	4.62	4.75	4.02	3.89	3.79	3.79	4.32
o. Improve interpersonal and social skills	4.58	4.46	4.41	4.72	4.67	4.21	4.11	4.06	4.36	4.28
p. Other (please specify) ____________________ ____________________	(2.00)	(5.00)	(5.00)	(5.00)	(5.00)	(4.60)	(5.00)	(----)	(1.00)	(5.00)
Average	4.75	4.72	4.70	4.72	4.82	4.19	4.10	4.10	4.19	4.29

CAREER EDUCATION PROGRAM

RESEARCH FOR BETTER SCHOOLS

BOOK OF MEASURES

1. NAME OF INSTRUMENT: Experience Resource Site Demographic Data Questionnaire (ERDQ)

2. RATIONALE/OBJECTIVE OF INSTRUMENT: This instrument is designed to collect basic descriptive information about experience sites utilized in the EBCE projects.

3. RESPONDENT GROUP: The form is to be completed by persons representing the sites involved. They may be contact persons, resource persons or other representatives depending on the particulars of participation.

4. HISTORY OF THE DEVELOPMENT OF THE INSTRUMENT: Most of the content of this instrument was embodied in the Employer/Resource Questionnaire used during FY 74. Demographic and background items were extracted, and it was reasoned that this basic level of information about sites was essential and should be collected independent from various attitudinal items whose inclusion reduces the response rate.

5. ITEM CONTENT: The ERDQ includes name of sponsoring organization, name of representative, position of representative, address and telephone for representative, number of persons involved in EBCE instruction, fiscal structure, scope of operations, types of products, number of employees, characteristics of employees, other educational involvement and initiation to EBCE. Most items are multiple choice.

6. ADMINISTRATION PROCEDURES: This instrument was designed for individual interview conditions. Other methods have been found to be discouraging with regard to completeness of response. Time required is approximately 15 minutes. It is intended for a one-time administration.

7. SCORING PROCEDURES/SCORING INTERPRETATIONS: Individual item results are discrete. Items are used for descriptive purposes and demographic input analyses.

8. RELIABILITY: Not formally determined.

9. VALIDITY: Not formally determined.

10. DISSEMINATION: Results in a group form are provided to NIE and the other EBCE project staffs.

11. TECHNICAL DESCRIPTION: Since this instrument has not been administered as a separate entity, no results are available.

12. RECOMMENDED REVISIONS: The instrument as appended in Attachment A represents the recommended revision for FY 75. Since only limited data were available for analysis, much of the revision resulted from discussions with EBCE evaluators and conceptual considerations.

ATTACHMENT A

CAREER EDUCATION PROGRAM

EXPERIENCE RESOURCE SITE DEMOGRAPHIC DATA QUESTIONNAIRE

This survey instrument is to be completed for each experience resource site utilized in EBCE programs. It is to be administered by program staff to the contact person, coordinator or other designated representative of the sponsoring organization.

Sponsoring Organization: ______________________________

Site Representative Name: ______________________________

Position: ______________________________

Address: ______________________________

Telephone: ____________________ Date: ____________

A. Please indicate positional category for site representative.

☐1. Administrative
☐2. Operational
☐3. Self-Employed

B. Please indicate representative's function within EBCE program.

☐1. Contact Person
☐2. Instructor
☐3. Both Contact and Instruction

C. Are there additional persons involved in instruction for EBCE students at this site?

☐1. No
☐2. Yes. How many? ____________

D. Which term best describes the fiscal structure of the sponsoring organization?

☐1. Profit
☐2. Non-Profit
☐3. Governmental Agency

E. What is the scope of operations of the sponsoring organization?

☐1. Local
☐2. Regional
☐3. National
☐4. International

F. Below is a list of categories covering the types of products and services typical of many organizations. Please check those which are descriptive of the sponsoring organization, and underline the one which is the most descriptive.

☐ 1. Agri-business and Natural Resources
☐ 2. Communications and Media
☐ 3. Construction
☐ 4. Consumer and Homemaking
☐ 5. Environment
☐ 6. Fine Arts and Humanities
☐ 7. Health
☐ 8. Hospitality and Recreation
☐ 9. Manufacturing
☐10. Marine Science
☐11. Marketing and Distribution
☐12. Office and Business
☐13. Public Service
☐14. Personal Services
☐15. Transportation

G. What is the approximate number of employees in the organization?

____

H. What is the approximate percentage breakdown of employees?

1. SEX
____ % Male
____ % Female

2. ETHNICITY
____ % Black
____ % White
____ % Other

I. Is the sponsoring organization involved in other programs for secondary school students?

☐1. No
☐2. Yes. How many? ____________________

J. How was the organization introduced to the EBCE program?

☐1. Program personnel contacted us
☐2. A student talked to us about the program
☐3. Another employer talked to us about the program
☐4. Company personnel talked to us about the program
☐5. Other (please specify)

K. Why did the organization become involved with the Career Education Program?

CAREER EDUCATION PROGRAM

RESEARCH FOR BETTER SCHOOLS

BOOK OF MEASURES

1. NAME OF INSTRUMENT: Cluster Test of Knowledge

2. RATIONALE/OBJECTIVES OF INSTRUMENT: These instruments are designed to measure the extent of intended knowledge conveyance through exposue to employer cluster learning activities. The instruments, are intended to provide effectiveness feedback to employers, developers and students. They will also have summative implications.

3. RESPONDENT GROUP: All students in each cluster are to be administered the appropriate instrument for that cluster.

4. HISTORY OF DEVELOPMENT: This was conceived as an approach to filling a gap in the measurement of learning effects of career education programs. The instrumentation effort was begun in the middle of FY 74, and continued to the beginning of FY 75. Resources were not available to mount a sustained effort of sufficient scope to meet the problem, but some rudimentary instruments were produced and experience gained.

5. ITEM CONTENT: Items cover equitably employers actively involved in the cluster of learning activities. Each cluster requires a separate instrument. These may later be generalized and reduced into one instrument. Items are derived from the actual program content; they reflect employer perceived priorities. Items are multiple-choice.

6. ADMINISTRATION PROCEDURES: These tests are administered at employer sites by the Employer Coordinator, or his designate, in a cluster pretest-posttest design. Administration time should not exceed 30 minutes.

7. SCORING PROCEDURES/SCORING INTERPRETATIONS: Number of correct responses are indicated for each student. Gains for each student are recorded.

8. RELIABILITY: Two cluster tests were administered, one on a pre-post basis, the other a pre-test only. Seven (7) cases were available for both pre-test sessions.

KR-20 (Utilities cluster) = .71
KR-20 (Health cluster) = .81

Six (6) of the original seven cases from the Utilities cluster took the post-test.

Test-Retest Correlation = .23
KR-20 (Post-Test) =.82

9. **VALIDITY:** Content Validity: The instruments were constructed with the input and assistance of Employer-Coordinators. As these Employers have an extensive understanding of the content universe for their paticular cluster. This instrument reflects an accurate conception of measurable knowledge.

   Face Validity: Items deal with the content of specific clusters.

   Construct Validity: Insufficient data were available to analyze construct validity.

10. **DISSEMINATION:** Data were used as feedback to counselor coordinators.

11. **TECHNICAL DESCRIPTION:** Means were computed for each testing.

	Cluster					
	Utilities			Health		
	Mean	SD	Range	Mean	SD	Range
Pre	17.00	2.08	13-19	19.29	4.39	13-26
Post	21.26	1.65	20-24	--	--	--

Total Possible Score: Utilities = 36
Health = 35

12. **RECOMMENDED REVISIONS:** More developmental work is needed before revisions can be suggested. In particular, a larger respondent pool needs to be constructed. The present effort is regarded as an initial and rudimentary one. Substantial resources would be required to accomplish the scope of instrument development connoted by cluster tests of knowledge. Instruments as they were administered in Fy 74 are included in Attachment A.

ATTACHMENT A

UTILITIES CLUSTER TEST

Name: ______________________________ **Pretest** ________________

Date: ______________________________ **Posttest** ________________

As a student in the Career Education Program you have been participating in an exploration of the careers in an employer cluster area, in this case UTILITIES.

You are involved in learning activities which are presented by employers in this cluster and designed to give you information and experience related to the world of work. This test is being given to find out how well the cluster experience is providing you with the information intended.

The pretest is administered near the beginning of the cluster activity to find out what you already know. The posttest is administered near the end of the cluster activity to find out what you have learned through the experience. After the posttest the answers to each question will be discussed.

Each question on this test has four answers from which to choose. Place a check mark in the box next to the answer you think is correct. If more than one seems to be correct, mark the one that is most correct. Do your best, and make certain that you write down your name and today's date in the spaces provided at the top of this page.

UTILITIES CLUSTER TEST - FORM A

1. What smell does natural gas have?

☐ a. Sweet

☐ b. Bitter

☐ c. It has no smell

☐ d. None of the above

2. Where is natural gas found?

☐ a. In the air

☐ b. In the ground

☐ c. In oil

☐ d. In water

3. At what pressure is natural gas pumped to your home?

☐ a.

☐ b.

☐ c.

☐ d. All of the above are possible

4. How is natural gas formed?

☐ a. It is a natural by-product of crude oil

☐ b. Pockets of gas were trapped when the earth cooled

☐ c. Nitrogen and Hydrogen combine under intense pressure

☐ d. None of the above

5. What is the function of the McElroy Analyzer?

☐ a. Checks the pressure of the system of pipes and mains that pumps natural gas

☐ b. Determines the quality of a given gas sample

☐ c. Analyzes a customer's natural gas needs

☐ d. All of the above

FORM A

6. To which department would a customer be referred to report faulty equipment?

☐ a. Customer Service, Customer Relations

☐ b. Research Department

☐ c. Distribution Department

☐ d. Transportation Department

7. What do the initials LNG stand for?

☐ a. Licensed for Natural Gas

☐ b. Lawrence Nelson Gregg

☐ c. Liquified Natural Gas

☐ d. None of the above

8. What is the function of the Transportation Department of a utility?

☐ a, Repair company vehicles

☐ b. Schedule use of company vehicles

☐ c. Distribute the utility to the public

☐ d. Both a and b are correct

9. Natural gas can be used for

☐ a. Lighting

☐ b. Cooking

☐ c. Heating

☐ d. All of the above

10. What is the primary component of natural gas?

☐ a. Carbon

☐ b. Oxygen

☐ c. Nitrogen

☐ d. Helium

FORM A

11. In what city was the first gas company located?

☐ a. Philadelphia

☐ b. London

☐ c. Paris

☐ d. None of the above

12. What source of information is most often used by utility companies for suggestions for new products?

☐ a. Customers

☐ b. Encyclopedias

☐ c. Research staff

☐ d. Company employees

13. It is possible to produce natural gas by burning

☐ a. Coal

☐ b. Wood

☐ c. Plastic

☐ d. None of the above

14. What is a "job freeze"?

☐ a. A situation where employees must work outside in cold weather

☐ b. When people are only hired for certain job classes

☐ c. When there is little or no hiring done

☐ d. When there is more hiring than usual

15. What is a "job freeze" caused by?

☐ a. Bad employer-employee relationships

☐ b. Cold weather

☐ c. An excess, or extra, amount of money available for hiring

☐ d. Too little money available for hiring

FORM A

16. Below are four statements which could possibly be applied to clerical jobs. Select the one which best describes the interaction between an organization and its clerical positions.

☐ a. They make an organization "go" by using many skills to do many jobs

☐ b. They are not covered by Civil Service

☐ c. They will soon be eliminated or ended, as useful tools in an organization

☐ d. They only involve typing, stenography, and answering telephones

17. What is the function of chlorine when added to water?

☐ a. Kills germs

☐ b. Reduces acidity, prolongs life of pipes

☐ c. Reduces off-tastes and odors

☐ d. Prevents tooth decay

18. What is the function of lime when added to water?

☐ a. Kills germs

☐ b. Reduces acidity, prolongs life of pipes

☐ c. Reduces off-tastes and odors

☐ d. Prevents tooth decay

19. What is the function of alum when added to water?

☐ a. Causes dirt particles to group together, which causes them to become trapped

☐ b. Reduce off-tastes and odors

☐ c. Prevents tooth decay

☐ d. Kills germs

FORM A

20. What is the function of carbon when added to water?

☐ a. Causes dirt particles to group together, which causes them to become trapped

☐ b. Prevent tooth decay

☐ c. Kills germs

☐ d. Reduces off-tastes and odors

21. How does the Water Department differ from the Gas Works, the Telephone Company, and the Electric Company?

☐ a. It is a government agency

☐ b. It is owned by stockholders

☐ c. It is geared to making profits

☐ d. None of the above

22. The Water Department is responsible for

☐ a. Keeping rivers flowing through complex, scientific methods

☐ b. Providing drinking water and treating sewage

☐ c. Taking care of street signs and traffic lights

☐ d. Cleaning streets near its plants

23. How many unit processes are there in water purification?

☐ a. Two

☐ b. Three

☐ c. Four

☐ d. Five

24. Which of the following is not a unit process of water purification?

☐ a. Coloring

☐ b. Lime and alum treatment

☐ c. Settling, chlorination, and fluoridation

☐ d. None of the above

25. Which of the following is not a process used in Water Pollution Controls?

☐ a. Bar screening

☐ b. Settling

☐ c. Aeration

☐ d. Salting

26. What is the function of water meters?

☐ a. Tell time by using water flow systems

☐ b. Flavor water

☐ c. Color water

☐ d. Record the amount of water customers use over a given period of time

27. What is the function of sewers?

☐ a. To carry clean water to customers

☐ b. To be paved like streets by Brick Masons

☐ c. To carry waste and storm water to plants for treatment

☐ d. To carry wastewater to the rivers directly

28 Why is a union agent important to all employees in Civil Service?

☐ a. He negotiates tax rates

☐ b. By his or her honesty, the union's position can be represented in a reasonable manner, or by dishonesty, can be unreasonably represented

☐ c. He or she can represent all employees, even though some are not in his union

☐ d. None of the above

FORM A

29. To whom should an employee first take work-related problems?

☐ a. To the union steward

☐ b. To his immediate supervisor

☐ c. To his friends

☐ d. To the head of the organization for which he works

30. A man should not really consider applying for a job as

☐ a. Clerk

☐ b. Stenographer

☐ c. Typist

☐ d. None of the above

31. A woman should not really consider applying for a job as

☐ a. Typist

☐ b. Fireman

☐ c. Chemist

☐ d. None of the above

32. Of the following classifications of jobs, which has the highest average salary?

☐ a. Customer representative

☐ b. Chemist

☐ c. Draftsman

☐ d. Typist

33. Of the following classifications of jobs, which has the lowest average salary?

☐ a. Customer representative

☐ b. Chemist

☐ c. Draftsman

☐ d. Typist

FORM A

34. In order to be a draftsman, it is necessary to have which of the following types of education?

☐ a. High school diploma

☐ b. College degree

☐ c. Trade school diploma

☐ d. Any of the above

35. In order to be a secretary, it is necessary to have which of the following types of education?

☐ a. High school diploma

☐ b. Trade school diploma

☐ c. College degree

☐ d. No particular educational training is necessary

36 Before being hired, every new employee is

☐ a. Given a written exam

☐ b. Interviewed

☐ c. Given a skill test

☐ d. All of the above

37. If there is a disput between an employee and his supervisor, it may be necessary to discuss the issue between them. Whose responsibility is it to initiate the discussion?

☐ a. The employee

☐ b. The supervisor

☐ c. The grievance officer

☐ d. Both a and b are correct

MANUFACTURING CLUSTER TEST

Name: ____________________________ Pretest _______________

Date: ____________________________ Posttest _______________

As a student in the Career Education Program you have been participating in an exploration of the careers in an employer cluster area, in this case MANUFACTURING.

You are involved in learning activities which are presented by employers in this cluster and designed to give you information and experience related to the world of work. This test is being given to find out how well the cluster experience is providing you with the information intended.

The pretest is administered near the beginning of the cluster activity to find out what you already know. The posttest is administered near the end of the cluster activity to find out what you have learned through the experience. After the posttest the answers to each question will be discussed.

Each question on this test has four answers from which to choose. Place a check mark in the box next to the answer you think is correct. If more than one seems to be correct, mark the one that is most correct. Do your best, and make certain that you write down your name and today's date in the spaces provided at the top of this page.

MANUFACTURING CLUSTER TEST - FORM A

1. What do the letters CAMS stand for?

☐ a. Cybernetic Anthropomorphic Manipulator Systems

☐ b. Cybernetic AnthropoMorphic Systems

☐ c. Cybernetic Anthropomorphic Monitoring Systems

☐ d. Cybernetic Analysis and Monitoring System

2. Which of the following is not a function of CAMS?

☐ a. Installing plate glass

☐ b. Reaching into furnaces

☐ c. Constructing furniture

☐ d. Stocking and loading

Below you will find 3 lists of words. Three of the words in each list are descriptions of orbits; one is a technical category of orbit. Choose the one word in each list which is a category of orbit.

3.

☐ a. Sub-orbital

☐ b. Space

☐ c. Ballistic

☐ d. Elliptical

4.

☐ a. Orbital

☐ b. Space

☐ c. Circular

☐ d. Inter-continental

5.

☐ a. Sub-space

☐ b. Inter-planetary

☐ c. Inter-continental

☐ d. Re-entry

FORM A

6. What do the initials RESD stand for?

☐ a. Ren-entry and Experimental Systems Division

☐ b. Re-entry Engineering, and Security Division

☐ c. Revival and Environmental Systems Division

☐ d. Re-entry and Environmental Systems Division

7. What does CAMS require in order to work?

☐ a. Computer

☐ b. Man

☐ c. Instructions

☐ d. Satellites

8. What does cracking mean?

☐ a. The process of oil coming from a well

☐ b. Splitting oil molecules into lighter, smaller molecules

☐ c. The action that takes place when an oil pipeline bursts

☐ d. None of the above

9. Which of the following is not a by-product of crude oil?

☐ a. Gasoline

☐ b. Long-playing records

☐ c. Water color paints

☐ d. Sunglasses

10. For whom was the first well named?

☐ a. Edwin L. Drake

☐ b. Benjamin Sittiman

☐ c. Robert Griswold

☐ d. James M. Townsend

FORM A

11. Which of the following represents the correct order of the weight of oil, gasoling and water from heaviest to lightest?

☐ a. Water, oil, gasoline

☐ b. Oil, gasoline, water

☐ c. Gasoline, oil, water

☐ d. Water, gasoline, oil

12. What two chemicals make up most of petroleum?

☐ a. Hydrogen and gasoline

☐ b. Carbon and oxygen

☐ c. Water and carbon

☐ d. Carbon and hydrogen

13. The instrument that helps people find oil also does something else. What else does it do?

☐ a. Finds water

☐ b. Determines earthquake severity

☐ c. Pumps oil

☐ d. Records heart-beat rate in cardiac patients

14. An oil still is a piece of equipment used in the refining process. What is the function of an oil still?

☐ a. Separates crude oil into its various factors

☐ b. Makes synthetic oil

☐ c. Mixes the oil with alcohol

☐ d. Mixes the oil with a catalyst

15. How many gallons in a barrel of crude oil?

☐ a. 50

☐ b. 48

☐ c. 42

☐ d. None of the above

FORM A

16. What percentage of crude oil is gasoline?

☐ a. 17

☐ b. 22

☐ c. 25

☐ d. 50

17. Who owns public companies?

☐ a. Presidents

☐ b. Stockholders

☐ c. Workers

☐ d. Board Members

18. On average, what is the most economical way of transporting oil?

☐ a. Tankers

☐ b. Railway tank cars

☐ c. Highway tank trucks

☐ d. Pipelines

19. What is the primary function of the Research branch of a company?

☐ a. Development of new and improved products, tools and processes

☐ b. Research customers' complaints

☐ c. Research possible stock market investments

☐ d. None of the above

20. What is the primary function of the Production branch of a company?

☐ a. Printing Documents

☐ b. Servicing Products

☐ c. Manufacturing goods and services

☐ d. Evaluation of products

FORM A

21. What is the primary function of the Marketing branch of a company?

☐ a. Training staff

☐ b. Servicing products

☐ c. Evaluating products

☐ d. Selling and distributing products to consumers

22. What is the primary purpose of a company involved in manufacturing?

☐ a. To manufacture a product

☐ b. To make a profit

☐ c. To serve the consumer

☐ d. All of the above

23. Which of the following is not considered a support service department?

☐ a. Legal

☐ d. Medical

☐ c. Marketing

☐ d. Computer

24. Crude oil is separated into "factors" by

☐ a. A catalyst

☐ b. A cracker

☐ c. A still

☐ d. None of the above

FORM A

25. Below you will find groups of important topics or issues concerned with our society. Choose the one group which contains a non-environmental issue.

- ☐ a. Air pollution, undersea exploration, oil and water separation
- ☐* b. Housing, solid waste disposal, health problems
- ☐ c. Water resource disbursement, supplies of lumber
- ☐ d. None of the above

26. A seismograph helps scientists

- ☐ a. Find oil
- ☐ b. Locate earthquakes
- ☐ c. Both a and b are correct
- ☐ d. None of the above

27. Of the following classifications of jobs, which has the highest average salary?

- ☐ a. Customer representative
- ☐ b. Chemist
- ☐ c. Draftsman
- ☐ d. Typist

28. Of the following classifications of jobs, which has the lowest average salary?

- ☐ a. Customer representative
- ☐ b. Chemist
- ☐ c. Draftsman
- ☐ d. Typist

29. In order to be a draftsman, it is necessary to have which of the following types of education?

- ☐ a. High school diploma
- ☐ b. College degree
- ☐ c. Trade school diploma
- ☐ d. Any of the above

FORM A

30. In order to be a secretary, it is necessary to have which of teh follwoing types of education?

☐ a. High school diploma

☐ b. Trade school diploma

☐ c. College degree

☐ d. No particular educational training is necessary

31. Before being hired, every new employee is

☐ a. Given a written exam

☐ b. Interviewed

☐ c. Given a skill test

☐ d. All of the above

32. If there is a dispute between an employee and his supervisor, it may be necessary to discuss the issue between them. Whose responsibility is it to initiate the discussion?

☐ a. The employee

☐ b. The supervisor

☐ c. The grievance officer

☐ d. Both a and b are correct

HEALTH CLUSTER TEST

Name: ______________________________ Pretest __________________

Date: ______________________________ Posttest __________________

As a student in the Career Education Program you have been participating in an exploration of the careers in an employer cluster area, in this case HEALTH.

You are involved in learning activities which are presented by employers in this cluster and designed to give you information and experience related to the world of work. This test is being given to find out how well the cluster experience is providing you with the information intended.

The pretest is administered near the beginning of the cluster activity to find out what you already know. The posttest is administered near the end of the cluster activity to find out what you have learned through the experience. After the posttest the answers to each question will be discussed.

Each question on this test has four answers from which to choose. Place a check mark in the box next to the answer you think is correct. If more than one seems to be correct, mark the one that is most correct. Do your best, and make certain that you write down your name and today's date in the spaces provided at the top of this page.

HEALTH CLUSTER TEST -- FORM A

1. What do the initials E.R. stand for?

   ☐ a. Endocrinal Respriator

   ☐ b. Emergency Room

   ☐ c. Energy Reserve

   ☐ d. None of the above

2. What is a suture?

   ☐ a. Needle

   ☐ b. Thread

   ☐ c. Hammer

   ☐ d. Clamp

3. What does NO_2 mean?

   ☐ a. Nitrous Oxide

   ☐ b. North Olney

   ☐ c. Nitric Oxide

   ☐ d. Novum Ovary

4. What is the primary function of the Dietary Unit?

   ☐ a. To help patients lose weight

   ☐ b. To help patients gain weight

   ☐ c. To prepare meals for all patients

   ☐ d. None of the above

5. What is the purpose of the SMA-12?

   ☐ a. Keeps one dozen eggs at 53°

   ☐ b. Takes blood pressure

   ☐ c. Removes plasma from blood

   ☐ d. Analyzes blood samples

FORM A

6. What do the initials RN stand for?

☐ a. Royal Navy

☐ b. Reserve Nurse

☐ c. Roentgen

☐ d. Registered Nurse

7. If a blood sample is said to be RH+, it is

☐ a. Acidic

☐ b. Basic

☐ c. Neutral

☐ d. None of the above

8. What type of diet should a diabetic be kept on?

☐ a. High-cholestorol

☐ b. Low sugar

☐ c. High sugar

☐ d. Bread and water for two weeks

9. What is insulin?

☐ a. Sugar

☐ b. An enzymatic compound present in diabetics

☐ c. A non-caloric sugar substitute

☐ d. A hormone, normally secreted to metabolize carbohydrates

10. What function does the Inhalation Therapist serve?

☐ a. Administers mouth-to-mouth resuscitation

☐ b. Administers drugs to patients through inhalation

☐ c. The same as an anaesthesiologist

☐ d. None of the above

FORM A

11. What is a Petrie dish?

- ☐ a. A small container used in the conduct of Bio-chemical experiments
- ☐ b. A small dish used by the Dietary Unit
- ☐ c. A small container used by surgeons during an operation
- ☐ d. None of the above

12. What do the letters OR stand for?

- ☐ a. Oxygen Room
- ☐ b. Operating Room
- ☐ c. Only Receiving
- ☐ d. Operations and Recovery

13. What is the function of an Anaesthesiologist?

- ☐ a. Puts patients to sleep
- ☐ b. Takes X-Rays
- ☐ c. Sets broken bones
- ☐ d. Analyzes blood

14. What does a Radiation Therapist do?

- ☐ a. Puts patients to sleep
- ☐ b. Takes X-Rays
- ☐ c. Administers drugs to patients through inhalation
- ☐ d. Analyzes blood

15. What is an Out-Patient?

- ☐ a. One who is too strung out on drugs to be helped
- ☐ b. One who has been released from the hospital, but still comes in for treatment
- ☐ c. One who walks out of the hospital
- ☐ d. None of the above

FORM A

16. Why are masks worn during an operation?

☐ a. So the patient can't identify the operating team afterwards

☐ b. To protect the patient from germs

☐ c. To protect the operating team from germs

☐ d. To help the operating team breathe

17. What is the purpose of a scalpel?

☐ a. To hold two pieces of skin together

☐ b. To sew two pieces of skin together

☐ c. To take a blood sample

☐ d. To make a cut in a patient

18. What is an incision?

☐ a. A cut made during an operation

☐ b. A wound

☐ c. When two doctors call in a third doctor for his opinion about a patient

☐ d. The rules a pharmacist follows when making a drug

19. A patient is having trouble breathing. Of the following, who would be the best to summon to his aid?

☐ a. An Anaesthesiologist

☐ b. A Respiration Therapist

☐ c. A housekeeper

☐ d. Surgeon

20. The function of the bio-chem lab is

☐ a. To analyze blood samples

☐ b. To aid doctors in making diagnosis

☐ c. To conduct experiments

☐ d. All of the above

FORM A

21. Blood is made up mostly of

☐ a. Oxygen

☐ b. Nitrogen

☐ c. Plasma

☐ d. Glucose

22. The human body is 2/3

☐ a. Oxygen

☐ b. Water

☐ c. Tissue

☐ d. Organs

23. What do the initials LPN stand for?

☐ a. Licensed Pediatric Nurse

☐ b. Limited Practical Nurse

☐ c. Licensed Practical Nurse

☐ d. Long-Pulse Needle

24. The function of the Social Service worker is

☐ a. Undetermined

☐ b. To aid clients through personal problems related to health situations

☐ c. To organize staff parties in the hospital

☐ d. None of the above

25. Social Service Workers must be

☐ a. M.D.'s

☐ b. Psychiatrists

☐ c. Trained counselors

☐ d. R. N.'s

FORM A

26. In order to be an anaesthesiologist, one must also be

☐ a. A nurse

☐ b. An M.D.

☐ c. A Radiation Therapist

☐ d. Male

27. Blood that is non-acidic is said to be

☐ a. RH positive or neutral

☐ b. RH negative or neutral

☐ c. RH neutral only

☐ d. None of the above

28. A primary symptom of diabetes is

☐ a. Abnormal urine

☐ b. Excessive sugar in the blood

☐ c. Insufficient sugar in the blood

☐ d. Loss of appetite

29. The person responsible for taking X-rays is the

☐ a. Inhalation Therapist

☐ b. Anaesthesiologist

☐ c. Radiation Therapist

☐ d. Surgeon

30. To protect patients from germs during an operation,

☐ a. He is anaesthetized

☐ b. A screen is erected

☐ c. Masks are worn

☐ d. All of the above

FORM A

31. Of those careers available in the health-care field, which provides the greatest financial reward?

☐ a. Hospital Administration

☐ b. Nursing

☐ c. General Medicine (M.D.)

☐ d. Specializations (M.D.)

32. Of those careers available in the health-care field, which provides the greatest mental or psychological satisfaction?

☐ a. Hospital Administration

☐ b. Nursing, practicing medicine

☐ c. Lab technician

☐ d. Each individual must decide for himself

33. In order to be an M.D., it is necessary to have which of the following types of education?

☐ a. College degree

☐ b. Graduate degree

☐ c. Some college study

☐ d. Trade school diploma

34. In order to be an x-ray technician, it is necessary to have which of the following types of education?

☐ a. College degree

☐ b. Graduate degree

☐ c. Some college study

☐ d. Trade school diploma

35. In order to be a nurse, one must be

☐ a. A female

☐ b. Dedicated to helping others

☐ c. Trained in the fundamentals of medicine

☐ d. Both b and c are correct

CAREER EDUCATION PROGRAM
RESEARCH FOR BETTER SCHOOLS
BOOK OF MEASURES

1. **NAME OF INSTRUMENT:** Assessment of Student Attitudes Scale (ASA)

2. **RATIONALE/OBJECTIVES OF INSTRUMENT:** This instrument was designed to measure student attitudes toward learning environments, both traditional and non-traditional.

3. **RESPONDENT GROUP:** This form was designed for administration to any secondary school students including EBCE experimental and control.

4. **HISTORY OF THE DEVELOPMENT OF THE INSTRUMENT:** The ASA was designed during the summer preceeding the 1973-1974 academic year and has been under development since that time. Details concerning this developmental process may be found in Attachment A.

5. **ITEM CONTENT:** Items were designed to cover attitudes toward education in general, school curriculum, school resources and school counseling. Responses were recorded on five-point Likert scales with Strongly Disagree and Strongly Agree as poles.

6. **ADMINISTRATION PROCEDURES:** Amenable to group, individual or mail administration. Time for completion is approximately 15 minutes. The ASA was administered as a pre and posttest during FY 74.

7. **SCORING PROCEDURES/SCORING INTERPRETATIONS:** A scoring sheet is provided to arrange items into subtests and correct polarity of scales. Individual subtest scores (4) and the total test score have been used in analysis.

8. **RELIABILITY:** For the technical sections detailed information may be found in Attachment A. Briefly, subtest to total score correlations ranged from .76 to .96. Split half reliabilities of .75 and .77 were attained during pre and post administrations of the instrument.

9. **VALIDITY:** Teacher ratings of students were used to establish a validity estimate during the pilot test stages. Student attitude scales were dichotemized to allow a comparison between the directionality of test scores and teacher ratings.

An 88% rate of agreement was found. During FY 74, the instrument was also found to discriminate between experimental and control groups on attitudinal change.

10. **DISSEMINATION**: Results are provided in group form to NIE and the other EBCE project staffs.

11. **TECHNICAL DESCRIPTION**: See Attachment A.

12. **RECOMMENDED REVISIONS**: In addition to deleting Subtest 5, individual item content may be subject to deletion or addition pending analyses which are currently underway. The instrument is, however, workable in its present form.

ATTACHMENT A

THE ASSESSMENT OF STUDENT ATTITUDES

SCALE

Report 2

Career Education Program
Research for Better Schools, Inc.
1700 Market Street, Suite 1700
Philadelphia, Pennsylvania 19103

July 1, 1974

The Assessment of Student Attitude Scale (ASA) was designed as a measure of generalized attitudes toward school and several important elements of the school environment. In addition to a total score, the instrument yields subtest scores in the following areas:

1. attitude toward education in general
2. attitude toward school curriculum
3. attitude toward school resources
4. attitude toward school counseling
5. attitude toward learning

The ASA was administered in a pilot form and revised to a 51 item instrument. The processes involved in this early design and development are presented in "The Assessment of Student Attitudes Scale" Report 1, November 20, 1973. The purpose of the present report is to delineate development of the ASA from that time through July 1, 1974.

Prior to the pretest administration of the instrument in the Fall of 1973, several modifications of the instrument form found in Report 1, Appendix 3 were made. One item was deleted due to wording difficulties, reducing the test to 50 items. The instructions were revised for clarity and appropriateness for the specific samples being tested. The wording of items was adjusted to balance the number of negative and positive statements. A scoring sheet was also devised to render both positive and negative item responses on the same numeric scale (1 = low to 5 = high) and to simplify the production of subtest scores. The five subtests were retained with item contents as indicated in Appendix A. The subtest breakdowns and directionality of the items are outlined in the scoring sheet at the end of the pretest form.

This form of the ASA was administered with the pretest package to all FY 74 Academy for Career Education experimental, comparison and context group students. The total subject pool was 258. The responses were subjected to a rudimentary item analysis consisting of item intercorrelations, item-to-subtest score correlations and item-to-total score correlations. Subtest scores were also analysed to determine whether they discriminated between the various samples tested.

These analyses revealed that the subtest scores had minimum discrimination power on the pretest, and that several items were impairing the internal consistency of the instrument. The actual results are not appended to this report due to their sheer volume and interim nature, but they may be obtained upon request. The ASA was revised as an outcome of these analyses.

The final revision of the ASA was accomplished for posttest administration in the Spring of 1974. Based on the analyses of the pretest results 18 items were excluded. Criteria utilized in this exclusion were correlations of less than .20 between the item and the subtest score or the total score. The following items were deleted: 9, 11, 12, 14, 15, 16, 17 20, 21, 25, 26, 31, 39, 40, 41, 46, 48, 50. The following items were retained:

1. Attitude Toward Education in General: 4, 27, 28, 30, 32, 35, 49 - 7 items
2. Attitude Toward School Curriculum: 1, 7, 8, 29, 33 - 5 items
3. Attitude Toward School Resources: 2, 3, 6, 13, 18, 22, 23, 24, 36, 47,- 10 items

4. Attitude Toward School Counseling: 5, 10, 19, 37, 38 - 5 items

5. Attitude Toward Learning: 34, 42, 43, 44, 45 - 5 items

The instrument was thus reduced to 32 items. The order of presentation of the items was again randomized. New instructions were written. This revised ASA instrument is included as Appendix B. The item numbers in parentheses indicate the pretest position of each item. The same format was used for both pretest and posttest scoring sheets to facilitate comparative analyses. This form of the instrument was administered as part of the posttest package to Academy for Career Education experimental, comparison and context groups. Analyses of the posttest data and comparative pre-post results form the basis for final recommendations for the Assessment of Student Attitude Scale.

Pre and posttest data were subjected to interitem correlation, item to subtest score correlation, item to total score correlation, and subtest to total score analyses. On the basis of these results, subtest 5 (Attitude Toward Learning) was deleted from the ASA and the correlations recalculated.

Subtest to total score correlations were as follows:

Subtest	Pre	Post$_1$	Post$_2$
1. Attitude Toward Education in General	.96	.87	.99
2. Attitude Toward School Curriculum	.94	.76	.97
3. Attitude Toward School Resources	.77	.89	.63
4. Attitude Toward School Counseling	.89	.76	.96
5. Attitude Toward Learning	.36	.43	--
Split half reliability	.75	.77	--

The revised ASA now consists of 27 items grouped to form 4 subtests regarding student attitudes. The order of items will be rerandomized and the instrument will be in its final format. Decisions need to be made regarding the revision of the Attitude Toward School Resources Scale and the reconstruction of an Attitude Toward Learning Scale.

Appendix A

ACADEMY FOR CAREER EDUCATION

Name: ______________________________ Date: __________

ASSESSMENT OF STUDENT ATTITUDES

PRETEST INSTRUCTIONS

In developing the Academy program and planning for the future it is important to know what students think about various aspects of their education. This questionnaire has been designed to give you an opportunity to express your opinions about several fairly general educational issues based on your experience in school.

It is important to note that in this beginning of the year questionnaire your responses should be based on your opinions of school last year. If you were in the Academy last year, then your opinions should be about how the Academy was last year. If you were in Olney last year, then you should be thinking about your experiences at Olney when you answer the questions. This questionnaire is about last year, not this year at the Academy. You will be asked to evaluate your present Academy experience later.

Please read each statement, then circle the number on the scale below which shows the extent of your agreement or disagreement with the statement. If you circle a higher number (4 or 5), it means that you agree with what the statement says. If you circle a lower number (1 or 2), it means that you disagree. If you circle a number (3) at the middle of the scale, it means that you're not sure how much you agree or disagree.

Help change the world around you; help make a better school; fill out this questionnaire and let your opinions be known. Remember your opinions should be based on last year's experience in school.

1. There is a great deal being taught at my school that is useful for me as a person.

Strongly Disagree — Strongly Agree

1 2 3 4 5

2. The teachers at my school do not seem to know enough about what they're teaching.

Strongly Disagree — Strongly Agree

1 2 3 4 5

3. The facilities at my school are old and out-dated.

Strongly Disagree — Strongly Agree

1 2 3 4 5

4. I've learned a lot from my school program.

Strongly Disagree — Strongly Agree

1 2 3 4 5

5. My school counseling program has shown me some interesting things about different careers.

Strongly Disagree — Strongly Agree

1 2 3 4 5

6. My school has a lot of books and equipment that I can use to help myself learn.

Strongly Disagree — Strongly Agree

1 2 3 4 5

7. The experiences I get in my school learning sessions have not really helped me to learn.

Strongly Disagree — Strongly Agree

1 2 3 4 5

8. Most of the courses in school are useful.

Strongly Disagree — Strongly Agree

1 2 3 4 5

9. Not enough of the courses I've taken at my school have helped me decide what I want to do when I graduate.

Strongly Disagree — Strongly Agree

1 2 3 4 5

10. There are very few people and places in my school that I can go to when I have a personal problem.

Strongly Disagree — Strongly Agree

1 2 3 4 5

11. I do not get a chance to learn things at my own speed in school.

Strongly Disagree — Strongly Agree

1 2 3 4 5

12. People in school, like my teachers, have helped me in the last year.

Strongly Disagree — Strongly Agree

1 2 3 4 5

13. I'd say school was really worthwhile.

Strongly Disagree — Strongly

15. School doesn't teach me the things I really need to know.

Strongly Disagree				Strongly Agree
1	2	3	4	5

16. The teachers and counselors at my school seem to really like students.

Strongly Disagree				Strongly Agree
1	2	3	4	5

17. I have trouble paying attention in school because the courses are not interesting enough.

Strongly Disagree				Strongly Agree
1	2	3	4	5

18. My school does not have very good equipment to help learning.

Strongly Disagree				Strongly Agree
1	2	3	4	5

19. The counseling program at my school has been good for me.

Strongly Disagree				Strongly Agree
1	2	3	4	5

20. My school's counseling program is helping me shape a good future for myself.

Strongly Disagree				Strongly Agree
1	2	3	4	5

21. I need to go to school to get a good job.

Strongly Disagree				Strongly Agree
1	2	3	4	5

22. With a few exceptions, the teachers at my school are good teachers.

Strongly Disagree				Strongly Agree
1	2	3	4	5

23. I used many new materials to help me in my school work.

Strongly Disagree				Strongly Agree
1	2	3	4	5

24. My school uses a variety of ways to help us learn - not just a classroom and teacher.

Strongly Disagree				Strongly Agree
1	2	3	4	5

25. I have not really enjoyed most of the school courses that I have taken.

Strongly Disagree				Strongly Agree
1	2	3	4	5

26. I have not learned much from my school counseling program.

Strongly Disagree				Strongly Agree
1	2	3	4	5

27. Some of the ideas I've gotten in school have helped me get interested in some new area.

Strongly Disagree				Strongly Agree
1	2	3	4	5

28. School has always been boring - I can hardly wait until I'm out.

Strongly Disagree				Strongly Agree
1	2	3	4	5

29. Education, even vocational education, doesn't help with your job when you leave school.

Strongly Disagree				Strongly Agree
1	2	3	4	5

30. My parents are not very excited about the education I am getting.

Strongly Disagree				Strongly Agree
1	2	3	4	5

31. I think my school experience will help me get a good job.

Strongly Disagree				Strongly Agree
1	2	3	4	5

32. My school program, in general, has not been very good.

Strongly Disagree				Strongly Agree
1	2	3	4	5

33. Much of what I learn in school I can use in a job.

Strongly Disagree				Strongly Agree
1	2	3	4	5

34. I don't like to use the library very much.

Strongly Disagree				Strongly Agree
1	2	3	4	5

35. I like school because I learn a lot of new things there.

Strongly Disagree				Strongly Agree
1	2	3	4	5

36. The people who run my school probably do not enjoy what they're doing.

Strongly Disagree				Strongly Agree
1	2	3	4	5

37. Not much of the advice I have gotten in my school has helped me decide on what I want for my future.

Strongly Disagree				Strongly Agree
1	2	3	4	5

38. My school's counseling program isn't really helping me get ready for things I'll do after I graduate.

Strongly Disagree				Strongly Agree
1	2	3	4	5

39. The courses I've taken have taught me some interesting new things.

Strongly Disagree				Strongly Agree
1	2	3	4	5

40. I was interested in some of the things we talked about in school last year, even if I didn't really like the subject.

Strongly Disagree				Strongly Agree
1	2	3	4	5

41. My school program has not shown me any new possibilities for what I can do after I graduate.

Strongly Disagree				Strongly Agree
1	2	3	4	5

42. I enjoy teaching things to others.

Strongly Disagree				Strongly Agree
1	2	3	4	5

43. I like to learn about alot of different subjects.

Strongly Disagree — Strongly Agree

1 2 3 4 5

44. I learn a lot by doing new things outside of school.

Strongly Disagree — Strongly Agree

1 2 3 4 5

45. I don't usually read the newspaper every day.

Strongly Disagree — Strongly Agree

1 2 3 4 5

46. Most of what my school has taught me has not been of much use.

Strongly Disagree — Strongly Agree

1 2 3 4 5

47. The teachers I had in my school were not very interesting.

Strongly Disagree — Strongly Agree

1 2 3 4 5

48. Changes in school programs are usually not good ones.

Strongly Disagree — Strongly Agree

1 2 3 4 5

49. School, in general, is not doing enough to prepare me for the life I'll lead after I graduate.

Strongly Disagree — Strongly Agree

1 2 3 4 5

50. My school experience will probably help me get ahead later on.

Strongly Disagree				Strongly Agree
1	2	3	4	5

Appendix B

ACADEMY FOR CAREER EDUCATION

Name: ______________________________ Date: ________________

ASSESSMENT OF STUDENT ATTITUDES

POSTTEST INSTRUCTIONS

In developing your school program and planning for the future it is important to know what students think about various aspects of their education. This questionnaire has been designed to give you an opportunity to express your opinions about several fairly general educational issues based on your experience in school. It is not a test.

Please read each item carefully and think about your experiences in school this year in terms of what the item says. For each item circle the number on the scale below which shows the extent of your agreement or disagreement with the statement. If your circle a higher number (4 or 5), it means that you agree with what the statement says. If you circle a lower number (1 or 2), it means that you disagree. If you circle a number (3) at the middle of the scale, it means that you're not sure how much you agree or disagree.

This is not a test and there are no right or wrong answers. Your honest opinions will be appreciated and helpful in improving the school program. All answers will be kept confidential. If you have any questions, please raise your hand for assistance.

1. (28.) School has always been boring - I can hardly wait until I'm out.

Strongly Disagree — Strongly Agree

1 2 3 4 5

2. (5.) My school counseling program has shown me some interesting things about different careers.

Strongly Disagree — Strongly Agree

1 2 3 4 5

3. (6.) My school has a lot of books and equipment that I can use to help myself learn.

Strongly Disagree — Strongly Agree

1 2 3 4 5

4. (18.) My school does not have very good equipment to help learning.

Strongly Disagree — Strongly Agree

1 2 3 4 5

5. (29.) Education, even vocational education, doesn't help with your job when you leave school.

Strongly Disagree — Strongly Agree

1 2 3 4 5

6. (24.) My school uses a variety of ways to help us learn - not just a classroom and teacher.

Strongly Disagree — Strongly Agree

1 2 3 4 5

7. (7.) The experiences I get in my school learning sessions have not really helped me to learn.

Strongly Disagree — Strongly Agree

1 2 3 4 5

8. (27.) Some of the ideas I've gotten in school have helped me get interested in some new area.

Strongly Disagree — Strongly Agree

1 2 3 4 5

9. (42.) I enjoy teaching things to others.

Strongly Disagree — Strongly Agree

1 2 3 4 5

10. (34.) I don't like to use the library very much.

Strongly Disagree — Strongly Agree

1 2 3 4 5

11. (44.) I learn a lot by doing new things outside of school.

Strongly Disagree — Strongly Agree

1 2 3 4 5

12. (45.) I don't usually read the newspaper every day.

Strongly Disagree — Strongly Agree

1 2 3 4 5

13. (22.) With a few exceptions, the teachers at my school are good teachers.

Strongly Disagree — Strongly Agree

1 2 3 4 5

14. (19.) The counseling program at my school has been good for me.

Strongly Disagree — Strongly Agree

1 2 3 4 5

15. (37.) Not much of the advice I have gotten in my school has helped me decide on what I want for my future.

Strongly Disagree — Strongly Agree

1 2 3 4 5

16. (8.) Most of the courses in school are useful.

Strongly Disagree				Strongly Agree
1	2	3	4	5

17. (33.) Much of what I learn in school I can use in a job.

Strongly Disagree				Strongly Agree
1	2	3	4	5

18. (13.) I'd say school was really worthwhile.

Strongly Disagree				Strongly Agree
1	2	3	4	5

19. (35.) I like school because I learn a lot of new things there.

Strongly Disagree				Strongly Agree
1	2	3	4	5

20. (43.) I like to learn about alot of different subjects.

Strongly Disagree				Strongly Agree
1	2	3	4	5

21. (4.) I've learned a lot from my school program.

Strongly Disagree				Strongly Agree
1	2	3	4	5

22. (3.) The facilities at my school are old and out-dated.

Strongly Disagree				Strongly Agree
1	2	3	4	5

23. (32.) My school program, in general, has not been very good.

Strongly Disagree				Strongly Agree
1	2	3	4	5

24. (1.) There is a great deal being taught at my school that is useful for me as a person.

Strongly Disagree — Strongly Agree

1 2 3 4 5

25. (10.) There are very few people and places in my school that I can go to when I have a personal problem.

Strongly Disagree — Strongly Agree

1 2 3 4 5

26. (49.) School, in general, is not doing enough to prepare me for the life I'll lead after I graduate.

Strongly Disagree — Strongly Agree

1 2 3 4 5

27. (2.) The teachers at my school do not seem to know enough about what they're teaching.

Strongly Disagree — Strongly Agree

1 2 3 4 5

28. (47.) The teachers I had in my school were not very interesting.

Strongly Disagree — Strongly Agree

1 2 3 4 5

29. (36.) The people who run my school probably do not enjoy what they're doing.

Strongly Disagree — Strongly Agree

1 2 3 4 5

30. (38.) My school's counseling program isn't really helping me get ready for things I'll do after I graduate.

Strongly Disagree — Strongly Agree

1 2 3 4 5

31. (30.) My parents are not very excited about the education I am getting.

Strongly Disagree — Strongly Agree

1 2 3 4 5

32. (23.) I used many new materials to help me in my school work.

Strongly Disagree — Strongly Agree

1 2 3 4 5

ACADEMY FOR CAREER EDUCATION

POST-TEST

ASSESSMENT OF STUDENT ATTITUDE SCALE

SCORING SHEET

Name: ______________________________ **ID#** ______________

SUBTEST 1 - Attitude Toward

Education in General

ITEM		SCORE
1. 4	x =	___
2. 12	x =	___
3. 21	x =	___
4. 27	x =	___
5. 28	6-x =	___
6. 30	6-x =	___
7. 32	6-x =	___
8. 35	x =	___
9. 48	6-x =	___
10. 49	6-x =	___
TOTAL	=	☐
MEAN	=	☐

SUBTEST 2 - Attitude Toward

School Curriculum

ITEM		SCORE
1. 1	x =	___
2. 7	6-x =	___
3. 8	x =	___
4. 9	6-x =	___
5. 11	6-x =	___
6. 14	x =	___
7. 15	6-x =	___
8. 17	6-x =	___
9. 25	6-x =	___
10. 29	6-x =	___
11. 31	x =	___
12. 33	x =	___
13. 39	x =	___
14. 40	x =	___
15. 41	6-x =	___
16. 46	6-x =	___
17. 50	x =	___
TOTAL	=	☐
MEAN	=	☐

Grand Total Score = ______________

Overall Mean Score = ______________

SUBTEST 3 - Attitude Toward

School Resources

ITEM		SCORE
1. 2	6-x =	___
2. 3	6-x =	___
3. 6	x =	___
4. 13	x =	___
5. 18	6-x =	___
6. 22	x =	___
7. 23	x =	___
8. 24	x =	___
9. 36	6-x =	___
10. 47	6-x =	___
TOTAL	=	☐
MEAN	=	☐

SUBTEST 4 - Attitude Toward

School Counseling

ITEM		SCORE
1. 5	x =	___
2. 10	6-x =	___
3. 16	x =	___
4. 19	x =	___
5. 20	x =	___
6. 26	6-x =	___
7. 37	6-x =	___
8. 38	6-x =	___
TOTAL	=	☐
MEAN	=	☐

SUBTEST 5 - Attitude Toward

Learning

ITEM		SCORE
1. 34	6-x =	___
2. 42	x =	___
3. 43	x =	___
4. 44	x =	___
5. 45	6-x =	___
TOTAL	=	☐
MEAN	=	☐

ACADEMY FOR CAREER EDUCATION

Career Exploration Student Questionnaire

1. This questionnaire is an opportunity for you to evaluate the Career Exploration Employer course that you are currently finishing. Please fill in the name of the employer and the dates of the employer course. Your Counselor/Coordinator will have a list of the dates for you.

   Name of Exploration ______________________________

   Date Exploration Began ______________________________

   Date Exploration Ended ______________________________

2. Below are statements regarding the last employer course you completed. Based on a 5-point scale, rate each statement from 1 (very poor) to 5 (very good). Circle your answer. In the space provided, please indicate why you rated each statement the way you did.

   (1) The course was well organized.

1	2	3	4	5
Very Poor		Average		Very Good

   Explain: ______________________________

   ____

   ____

   ____

   ____

   (2) This is the kind of place where I might like to work.

1	2	3	4	5
Very Poor		Average		Very Good

   Explain: ______________________________

   ____

   ____

   ____

(3) I got to actually do things rather than just listen.

1	2	3	4	5
Very Poor		Average		Very Good

Explain:

(4) I enjoyed the program.

1	2	3	4	5
Very Poor		Average		Very Good

Explain:

(5) The employer personnel involved in the course were aware of the needs and interests of the students.

1	2	3	4	5
Very Poor		Average		Very Good

Explain:

(6) The employees involved with the students were interested in giving the course.

1	2	3	4	5
Very Poor		Average		Very Good

Explain: ____

____

____

____

____

(7) Indicate and explain the rating that best describes your overall general evaluation of this employer course.

1	2	3	4	5
Very Poor		Average		Very Good

Explain: ____

____

____

____

____

3. Were there any jobs you learned about in this employer course that really interested you? What were they and why did you like them?

____

____

____

____

4. Was there anything in particular that you liked about this employer course?

____

____

____

____

____

5. Was there anything in particular you disliked about this employer course?

____

____

____

____

____

6. Was this Exploration Cluster your first choice?

☐ Yes ☐ No

Employer Questionnaire

Name of respondent ____________________

Title of respondent ____________________

Name of company ____________________

Type of company ____________________

Address of company ____________________

____

Number of employees in the company ____________________

Number of employees at the experience site ____________________

Length of time respondent has been participating with the Career Education Program

____

1. When the student is at your site, approximately how many hours do you typically spend with a student? (Man hours per week)

   Number of hours ____________

2. Which of the following supportive services do you (or others at your site) provide for the Career Education Program (CEP) students? Check each appropriate category.

	Career Exploration	Career Specialization
Do you talk about job opportunities?	______	______
Do you talk about the students' personal problems?	______	______
Do you talk about activities at your site?	______	______
Do you tutor in an academic area?	______	______
Do you evaluate individual students' assignments?	______	______
Do you assist students in non-job related assignments?	______	______
Do you supervise students to perform a specific job-related task at your site?	______	______
Do you help plan student assignments?	______	______
Other (specify) ____________________	______	______

3. How do students spend their time at your site? Indicate the approximate number of hours per week for each category. If they are doing more than one thing at the same time, split the hours accordingly.

	Career Exploration	Career Specialization
Observing site activities	_______	_______
Researching from site materials	_______	_______
Actively performing site activities	_______	_______
Talking with me	_______	_______
Talking with other site personnel	_______	_______
Individual study	_______	_______
Other (specify) ______________________________	_______	_______

4. How did you become involved with the Career Education Program? Check appropriate response(s).

_____ EBCE personnel contacted me about the program.

_____ A student talked to me about the program.

_____ Another employer talked to me about the program.

_____ Company personnel talked to me about the program.

_____ Other (specify) ____

5. Why did you become involved with the program? ____________________________

____

____

____

6. Did the Career Education Program staff provide you with enough information to help you to direct student activities at your site?

_____ yes _____ no

If you answered no, what information would have been helpful? ____________________

____

7. Would you recommend to another person (potential employer or resource person) that he/she also become involved with Career Education Program?

_____ yes _____ no why? ____

____

8. Describe the type of person you think should be involved with Career Education Program students.

____

____

9. To what extent has the Career Education Program had an impact on the following items?

	How Much Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know	Good Impact	Bad Impact	Don't Know
a. Quality of work performed by regular employees	_____	_____	_____	_____	_____	_____	_____
b. Amount of work performed by regular employees	_____	_____	_____	_____	_____	_____	_____
c. Company hiring practices	_____	_____	_____	_____	_____	_____	_____
d. Company training practices	_____	_____	_____	_____	_____	_____	_____
e. List other possible impacts							
____________________	_____	_____	_____	_____	_____	_____	_____
____________________	_____	_____	_____	_____	_____	_____	_____
____________________	_____	_____	_____	_____	_____	_____	_____

10. In general, do you think the Career Education Program students you have worked with are really interested in your site? Circle the appropriate number from 1 (definitely no) to 5 (definitely yes).

Definitely No				Definitely Yes
1	2	3	4	5

11. In general, do you think the Career Education Program students you have worked with are really interested in the Career Education Program?

Definitely No				Definitely Yes
1	2	3	4	5

12. How have employees at your site reacted to participation in the Career Education Program? Check one.

_____ Positive reaction
_____ Negative reaction
_____ Mixed reaction
_____ No reaction
_____ Not applicable
_____ Don't know

13. In what ways (if any) have the employees at your site benefited? Check appropriate response(s).

_____ They haven't benefited
_____ Increased their awareness of youth
_____ Motivated the regular employees to further training
_____ Reduced their workload
_____ Increased interest in their own work
_____ I don't know
_____ Other (please specify) ____

14. Do you receive adequate feedback about what happens to the students after they leave your site? Circle the appropriate number from 1 (never) to 5 (always).

Never				Always
1	2	3	4	5

15. Do you receive adequate feedback about the effectiveness of your work with the students?

Never				Always
1	2	3	4	5

16. How many times and ways have you communicated with staff during this school year? Check as many as apply.

	Individual Meetings	Group Meetings	Telephone	Correspondence
Almost every day				
Once or twice a week				
Once or twice a month				
Less than once a year				
Never				

17. Below are listed several area of possible importance for a student to learn. Please rate each in terms of how important you feel it is for a student to learn, and how well you feel the program is accomplishing each.

	How Important Do You Feel This Learning Is?					How Effective Do You Feel the Project Has Been in Accomplishing This Learning				
Students learn to:	Not Important				Highly Important	Not Effective				Highly Effective
a. Perform specific occupational skills	1	2	3	4	5	1	2	3	4	5
b. Be punctual and organize their time	1	2	3	4	5	1	2	3	4	5
c. Assume responsibility for themselves	1	2	3	4	5	1	2	3	4	5
d. Make decisions and follow through	1	2	3	4	5	1	2	3	4	5
e. Communicate with others in a mature way	1	2	3	4	5	1	2	3	4	5
f. Be aware of more career opportunities	1	2	3	4	5	1	2	3	4	5
g. Work with others	1	2	3	4	5	1	2	3	4	5
h. Evaluate their own work	1	2	3	4	5	1	2	3	4	5
i. Perform basic academic skills	1	2	3	4	5	1	2	3	4	5
j. Think through and solve problems	1	2	3	4	5	1	2	3	4	5
k. Have a realistic attitude toward self	1	2	3	4	5	1	2	3	4	5
l. Have a positive attitude toward work	1	2	3	4	5	1	2	3	4	5
m. Have a positive attitude toward learning	1	2	3	4	5	1	2	3	4	5
n. Prepare for further education	1	2	3	4	5	1	2	3	4	5
o. Improve interpersonal and social skills	1	2	3	4	5	1	2	3	4	5
p. Other (please specify)__________ ____________________	1	2	3	4	5	1	2	3	4	5

18. Do you plan to continue participating in the Career Education Program?

Yes _____ No _____ Don't Know _____

Why: ____

____

____

____

19. What do you think are the greatest strengths of the Career Education Program?

____

____

____

20. What do you think are the greatest weaknesses of the Career Education Program?

____

____

____

21. What other comments or recommendations about the Career Education Program would you like to make?

____

____

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APPENDIX D

Procedural Audit Report

MEMORANDUM

TO: Mary Ann Millsap
Career Education Program
National Institute for Education
Washington, D.C.

FROM: Russell A. Dusewicz, Ph.D.
Independent Auditor

SUBJECT: AUDIT REPORT OF RBS CAREER EDUCATION PROGRAM EVALUATION ACTIVITIES

DATE: September 25, 1974

This report, in memorandum form, is based upon: a systematic auditing of the procedures undertaken by the RBS Career Education Program in year-end evaluation; verification of data collection and processing; review of analytic techniques; and assessment of the appropriateness of reported results and conclusions. Specifically excluded from the responsibilities of this audit are those areas involving judgements on: evaluation design; program objectives; instrumentation; program operations; and the nature of the data collected.

Within the predefined scope of this work are the specific considerations of the following types, which are listed immediately below and treated topically in the balance of this report.

1. Appropriateness of Posttesting Content and Procedures.
2. Accuracy of Data Collection and Processing.
3. Verification of Description Statistics in Final Report.
4. Appropriateness of Analytic Techniques Applied.
5. Appropriateness of Conclusions.

It should be noted that final drafting and reproductions of the Final Report was still in process at the time portions of this audit were completed which made the review process more difficult, although sufficient information, and a final draft copy of the Report were made available for audit purposes.

1. Appropriateness of Posttesting Content and Procedures.

Design considerations aside, the testing phase of the Career Education Program appeared to be sufficiently appropriate in content to enable collection of data representative of variables to be used for both descriptive and inferential statistical purposes. It was also deemed generally appropriate from a procedural standpoint, although some reservations might be expressed concerning the timing of pre- and posttesting which is some instances produced sizable differences across groups in terms of inter-test intervals.

2. Accuracy of Data Collection and Processing.

Verification of data collection and processing was attempted via selection and rescoring of both pre- and posttests on the CTBS for a random sample of students. Ten students were so selected from the tenth and eleventh grades as well as an additional ten students from the twelfth grade.

In the twelfth grade sample, two pretest errors were found: a two-point error for one student on one of the CTBS subtests; and a one-point error for one student on another CTBS subtest. In the tenth-eleventh grade sample, the following additional errors were found: a one-point error for two different students on one CTBS subtest; and a one-point error for another student on a different CTBS subtest. Thus a total of five different errors were uncovered in the scoring process. When accuracy of transcription from answer sheets to coding sheets was reviewed, no errors could be detected for the sample cases. Keypunching was likewise verified against coding with the result that one additional error of one point was found on one of the CTBS subtests. Student transcripts were also reviewed against student summary sheets with the result that no additional errors were found.

When reviewed in terms of the extent of error over the number of scores examined, it is found that a total of six errors were uncovered when five subtests over two testing periods for twenty individuals were reviewed. Thus a total of six errors in 200 scorings, or an error factor of 3%, was incurred as a result of collecting and processing of the data if the sample studied here is a representative one.

The magnitude of a one- or two- point raw score error is rather insignificant in light of the rather large mean total raw scores for the groups studied and, together with the low frequency of their occurrence and the absence of any apparent bias in the occurrence of errors across groups, would be of little consequence in terms of the analyses undertaken and the conclusions drawn from their results.

3. Verification of Descriptive Statistics.

It is the opinion of this reviewer that the descriptive statistics presented in tabular form and in the text of the Final Report are neither misleading nor inappropriate and adequately reflect the types of data collected as well as accurately representing the forms of descriptive statistical profiles of the variables of concern. It should be noted that although the accuracy of the collection and processing of data serving as input to many of these tables was not investigated, no gross procedural errors appeared to have been made that would produce consequent significant distortions in the descriptive statistics presented. Moreover, no biases in collection or processing of these same data could be detected.

It is believed that any errors in data collection and processing which would affect the reporting of the descriptive statistics in the Final Report were unsystematic in nature, contributing only, perhaps, to a similarly increased error variance

4. Appropriateness of Analytic Techniques Applied.

In examining the appropriateness of the statistical techniques utilized in analyzing data on the CTBS, CMI and ASA, no problems arise with respect to the use of the correlated t-test for within group pre- vs. posttest comparisons. It is an appropriate and recommended procedure. The same may be true in the cases for which covariance was used in making inter group comparisons, although two infrequently respected theoretical problems must be noted in view of the particular evaluation design employed here: non-random assignment across groups; and the unavailability of evidence on homogenity of regression. Arguments, of course, can be made for the robustness of the covariance techniques and for its relative insensitivity to failure to meet some of its underlying assumptions, but reservations concerning violation of these assumptions are nevertheless worth noting. This is especially true in the present instance where random assignment did not occur, and no evidence of homogenity of regression is offered in the Final Report. Studies of this type are always subject to interpretation difficulties that are not present when random assignment is used in forming the groups. Even when analysis of covariance is skillfully used, one can never be certain that some variable that has been overlooked will not bias the evaluation. This problem is absent in properly randomized studies because the effects of all uncontrolled variables are distributed among the groups in such a way that they can be taken into account in the text of significance.

It should also be noted that the conventional statistical confidence level of ninety-five percent ($p < .05$) was not used for hypothesis testing in the evaluation of this program, but rather the somewhat less stringent ninety percent ($p < .10$) level was the standard applied. This relaxation of confidence level, while effectively increasing the chances of obtaining significant findings, is not infrequently employed in other areas of research where characteristically high proportions of error variance are present in the measurements undertaken.

5. Appropriateness of Conclusions.

Aside from a consideration of certain reservations already expressed in earlier sections of this report (admittedly not uncommon in evaluations of educational programs), the treatment of hypotheses and conclusions reached in the "Summative Evaluation" section of the Final Report reflect an appropriate drawing of inferences from the statistical analyses performed on the relevant data. Given the limitations of design and the pre-established confidence levels employed in hypothesis testing, an accurate interpretation of the results appears to have been made in those cases where inferential statistical techniques were utilized .